SIERRA LEONE.

Annual Report

OF THE

Medical and Sanitary Department

For the Year 1935.

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MEDICAL DEPARTMENT,
FREETOWN, SIERRA LEONE,

16th June, 1936.

ANNUAL MEDICAL AND HEALTH REPORT, 1935.

SIR,

I have the honour to submit, for the information of His Excellency the Governor and for transmission to the Right Honourable the Secretary of State for the Colonies, the Medical Report on the Health and Sanitary conditions of Sierra Leone for the year 1935, together with the Returns, etc., appended thereto.

I have the honour to be,
SIR,
Your obedient servant,

PHILIP D. OAKLEY,
Director of Medical Services.

THE HONOURABLE
THE COLONIAL SECRETARY,
FREETOWN.

CORRIGENDA.

PAGE 24. TABLE N.—Under "Colony," read 135 for ‡135 and ‡38 for 38.

PAGE 25. TABLE O.—Read Mulattoes for Mullattoes.

PAGE 70 (5). *Genito-Urinary*. Read undescended for undesended.

PAGE 71. Under "Operations performed on Europeans," read Appendicectomy for Apendicectomy.

CONTENTS.

Annual Report of the Medical and Sanitary Department for the Year 1935.

I—Administration.

(*a*) ESTABLISHMENT, INCLUDING VACANCIES, ACTING APPOINTMENTS AND PROMOTIONS.

Medical and Health Staff.

1 Director of Medical Services
1 Specialist
1 Assistant Director of Medical Services
1 Senior Health Officer
1 Medical Officer (Health)—Appointment held in abeyance
2 Senior Medical Officers
10 Medical Officers of the Colonial Medical Service
1 Senior Medical Officer (Sierra Leone)
1 Pathologist (Sierra Leone)
5 Medical Officers (Sierra Leone)
1 Chief Sanitary Superintendent
2 Sanitary Superintendents.

European Nursing Staff.

2 Senior Nursing Sisters
5 Nursing Sisters.

Subordinate Medical and Health Staff.

1 Chief Dispenser
1 Assistant Chief Dispenser
1 Hospital Warden
1 Chief Store-keeper
10 First Class Dispensers
10 Second Class Dispensers
18 Third Class Dispensers
33 Male Nurses and Apprentices
25 Female Nurses and Probationers
4 Midwives
3 Health Visitors
36 Sanitary Inspectors and Learners
1 Head Attendant, Lunatic Asylum
1 Assistant Head Attendant, Lunatic Asylum
1 Matron, Lunatic Asylum
3 Female Attendants, Lunatic Asylum
10 Male Attendants, Lunatic Asylum
1 Laboratory Assistant.

There are, in addition to above, cooks, stokers, gate-keepers, watchmen, labourers, hospital porters, carpenter, motor-ambulance driver, etc.

Clerical Staff.

There are 16 clerks—1 Chief Clerk, 1 second grade, 9 senior third grade, 5 junior third grade.

Principal Acting Appointments.

Dr. J. A. A. Duncan acted as Director of Medical Services from 24th April to 28th September.

Dr. W. Allan acted as Medical Officer (Health) from 1st January to 31st December.

New Appointments.

Dr. W. M. Quin appointed Medical Officer on the 24th April and arrived Freetown on 5th May.

Dr. W. R. Williams appointed Medical Officer on the 24th April and arrived Freetown on 5th May.

Retirements.

Dr. A. B. Monks, Senior Health Officer, retired on the 22nd April.
Mr. A. Belford, Fifth Grade Sanitary Inspector, retired on the 23rd February.
Mr. C. F. Bull, Third Class Dispenser, retired on the 8th January.
Mr. T. A. Gabbidon, First Class Nurse, retired on the 8th January.
Mr. C. K. Williams, Third Class Dispenser, retired on the 12th April.

RESIGNATION.

Dr. R. B. Henderson, Medical Officer, resigned on the 23rd June.

TERMINATION OF APPOINTMENT.

Dr. W. A. Burnett, Medical Officer—services terminated on the 9th March.

It is with regret that the death of Mr. S. J. Cole, Second Class Dispenser, on the 30th September is announced.

2. (*b*) LIST OF ORDINANCES, ETC., AFFECTING PUBLIC HEALTH ENACTED DURING THE YEAR.

ORDINANCES.

Public Health (Amendment) Ordinance, 1935, (No. 10 of 1935).
Medical Practitioners, Dentists and Druggists (Amendment) Ordinance, 1935 (No. 18 of 1935).

ORDER IN COUNCIL.

Protectorate Health Areas (Amendment) Order in Council 1935, (No. 10 of 1935).
Registration Districts (Colony) Order in Council 1935, (No. 12 of 1935).
Change of Titles Order in Council 1935, (No. 13 of 1935).
Protectorate Health Areas (Amendment) (No. 2) Order in Council 1935, (No. 17 of 1935).
Births and Deaths Registration (Chiefdoms) Order in Council 1935, (No. 20 of 1935).

RULES.

Sherbro Judicial District (Amendment) Rules 1935, (No. 2 of 1935).
Animals' Diseases (Importation of Dogs) Rules 1935, (No. 7 of 1935).
Animals' Diseases (Control of Dogs) (Revocation) Rules 1935, (No. 9 of 1935).
Medical Register (Revocation) Rules 1935, (No. 10 of 1935).
Animals' Diseases (Control of Dogs) Rules 1935, (No. 13 of 1935).

GOVERNOR'S ORDERS.

Freetown Quarantine Order 1935, (No. 2 of 1935).
Freetown Quarantine (Revocation) Order 1935, (No. 3 of 1935).

(*c*) FINANCIAL.

3. The following table gives the revenue and expenditure for the year 1934 and 1935.

MEDICAL REVENUE.	1934. £	*s.*	*d.*	1935. £	*s.*	*d.*
Hospital receipts	779	5	6	961	4	0
Sundry receipts (out-patients' fees, etc.)	867	7	3	1,059	11	4
Druggists fees (registration)	0	10	0	1	0	0
Maintenance of lunatics	188	2	6	119	19	5
Departmental fines	5	9	0	4	17	6
Total	£1,840	14	3	£2,146	12	3

MEDICAL EXPENDITURE.	1934. £	*s.*	*d.*	1935. £	*s.*	*d.*
Personal Emoluments	36,019	19	4	35,349	13	8
Other Charges	12,237	7	2	11,567	3	2
Total	£48,257	6	6	£46,916	16	10

SANITARY REVENUE.	1934. £	*s.*	*d.*	1935. £	*s.*	*d.*
Sanitary Services	3	4	7	3	3	9
Maintenance of persons in quarantine		—			—	
Total	£3	4	7	£3	3	9

SANITARY EXPENDITURE.	1934. £	*s.*	*d.*	1935. £	*s.*	*d.*
Personal Emoluments	9,214	16	6	8,446	7	0
Other Charges	8,270	4	3	8,569	8	2
Total	£17,485	0	9	£17,015	15	2

4. Ratios of combined Medical and Sanitary votes to total estimated revenue for the past five years:—

Year.	£	
1931	86,708	1 : 9·08
1932	75,407	1 : 10·80
1933	73,092	1 : 10·67
1934	69,875	1 : 9·56
1935	66,094	1 : 10·29

ANALYSIS OF HOSPITAL EXPENDITURE FOR THE YEAR 1935.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Institution.	Total Number of Patients.	Daily Average Number of Patients.	Hospital Days.	Provisions from Store-keeper. Total.	Fresh Provisions. Total.	5 and 6 per Patient per Day.	Wines, Spirits, Minerals, Tobacco, Ice. Total.	8 per Patient per Day.	7 and 9 per Patient per Day.	Fuel, Light. Total.	Miscellaneous: Cleaning Materials, Hospital Equipment, Replacements.	Total of 5, 6, 8, 11 and 12.	5, 6, 8, 11 and 12 per Patient per Day.	Total Sum Recoverable from Paying Patients.
				£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Nursing Home ...	141	5·2	1,910	141 11 7	387 12 5	0 5 6½	21 19 3	0 0 2¾	0 5 9¼	30 2 6	10 0 1	591 5 10	0 6 2¼	788 4 0
Connaught Hospital	2,639	139·2	47,527	387 3 1	935 19 0	0 0 6¾	8 13 7	—	—	66 15 3	51 8 5	1,450 4 4	0 0 7¼	173 0 0
Lunatic Asylum ...	1,040	86·28	31,821	58 18 1¼	513 15 3¾	0 0 4¼	39 11 0	—	—	18 9 0	3 0 0	633 13 5	0 0 4¾	166 0 8
Kissy Infirmaries ...	1,164	96·08	34,618	66 1 5	538 4 4	0 0 4¼	16 2 0	—	—	18 9 0	3 0 0	641 16 9	0 0 4¼	—
Bonthe Hospital ...	555	18·88	6,884	20 17 8½	63 17 2	0 0 2¾	1 0 9	—	—	15 11 10	—	101 7 5½	0 0 3½	2 7 0

II—Public Health.

(*a*) GENERAL REMARKS.

(*i*) General Diseases.

6. The number of patients attending the various hospitals shows a further increase during 1935. The general health of the people of the Colony and the Protectorate can be considered as fairly satisfactory. Owing to the trade recovery the people now enjoy a better standard of living. As stated in the 1934 Report, the increase in hospital attendances is considered to be due to the increasing desire of the people to obtain relief for their ailments. The health of the Europeans cannot be considered as satisfactory as in 1934. Amongst the general populace malaria shows a marked increase but yaws shows again a large decrease. There is a further marked increase in the cases of avitaminosis, and it is considered that this form of avitaminosis is not due to an actual deficiency but rather to an ill-balanced diet. I regret to say there has been an increase in venereal diseases.

The rainfall recorded at the Freetown Meteorological Station for the year 1935 was 199·05 inches, the highest for 39 years. It has been pointed out by Gordon, Hicks, Davey and Watson, in "Annals of Tropical Medicine and Parasitology," Vol. XXVI, No. 3, of the 3rd October, 1933, that the anophelene rate in Freetown rises in relation to the rainfall, the peak of breeding of A. Funestus being reached in September. It is therefore reasonable to presume that, in spite of the canalisation to which attention was drawn in the 1934 Annual Report, the excessive rainfall during 1935 can be held responsible for the increase in the number of cases of malaria.

The outbreak of smallpox throughout the Colony and Protectorate is abating and reacting to wholesale vaccination. There was a localised outbreak in the East Ward of Freetown, due to an imported case. This outbreak was localised and easily controlled. In the early part of the year there was a small outbreak of yellow fever which forms the subject of a special report shown as Appendix G.

7. *European Officials.*—The health of European officials has received a slight setback owing to the fact that three officials died during the year, but the percentage of invalidings shows a slight decrease over that for 1934. Of the 3 deaths amongst European officials only 1 can be directly attributed to tropical diseases. Of the 7 invalidings, 3 were directly attributable to tropical diseases.

TABLE I.

Health of European Officials.

Table showing Sick, Invaliding and Death-rates of European Officials.

—	1933.	1934.	1935.
Total number of officials resident	218	208	207
Average number resident	155	144	145
Total number on sick list	136	143	149
Total number of days on sick list	1,564	1,231	1,696
Average daily number on sick list	4·28	3·37	4·64
Percentage of daily sick to average number resident ...	2·76	2·34	3·2
Average number of days on sick list to each patient ...	11·5	8·60	11·38
Average sick time to each resident	10·09	8·54	11·69
Total number invalided	7	9	7
Percentage of invalidings to total resident	3·21	4·32	3·38
Percentage of invalidings to average resident	4·51	6·25	4·82
Total number of deaths	1	—	3
Percentage of deaths to total resident	·45	—	1·44
Percentage of deaths to average number resident	·64	—	2·06

Causes of Invalidings and Death of European Officials.

Causes.	Invalided.	Died.
Acute appendicitis	—	1
Blackwater fever	2	—
Chronic nephritis	—	1
Dyspepsia	1	—
Malaria	1	—
Neurasthenia	1	—
Post yellow fever inoculation	1	—
Renal colic	1	—
Yellow fever	—	1
Total	7	3

8. The invaliding rate of European officials for the past ten years is shown below.

Year.	Average Number Resident.	Total Number of Invalidings.	Percentage of Invalidings to Average Resident.
1926	184	6	3·26
1927	250	16	6·40
1928	280	9	3·21
1929	251	11	4·38
1930	260	3	1·15
1931	177	8	4·51
1932	176	6	3·40
1933	153	7	4·51
1934	144	9	6·25
1935	145	7	4·82

9. *European Non-officials.*—There has been an increase in the total number of non-officials resident but, in spite of this, the invaliding rate shows a decrease as compared with 1934. There were 3 deaths, 2 of which were directly attributable to tropical diseases.

TABLE II.

Health of European Non-Officials.

Table showing Sick, Invalidings and Death-rates of European non-officials.

——	1933.	1934.	1935.
Total number of non-officials resident	400	442	511
Average number resident	285	306	399
Total number on sick list	45	87	64
Percentage of sick to average number resident	15·78	28·43	16·04
Average number of days on sick list to each patient ...	—	—	—
Average sick time to each resident	—	—	—
Total number invalided	7	·13	7
Percentage of invalidings to total residents	1·75	2·94	1·37
Percentage of invalidings to average number resident ..	2·45	4·24	1·75
Total deaths	3	—	3
Percentage of deaths to total residents	·75	—	·58
Percentage of deaths to average number resident ...	1·05	—	·75

10. Causes of invalidings and deaths of European non-officials.

Causes.	Invalided.	Died.
Blackwater	—	1
Cerebral malaria	—	1
Dysentery	1	—
Malaria	2	—
Meningeal condition	1	—
Septicæmia	—	1
Typhoid	2	—
Urinary trouble	1	—
Total	7	3

11. *African Officials.*—The total number of officials resident shows a decrease of two, and there is an increase in the total number of days spent on the sick list. The invaliding rate has increased, but the death-rate has remained about the same. The health of African officials cannot, therefore, be considered as satisfactory as in 1934.

TABLE III.

Health of African Officials.

Table showing Sick, Invalidings and Death-rates of African Officials.

—	1933.	1934.	1935.
Total number of officials resident	960	930	928
Average number resident	950	920	908
Total number on sick list	861	530	497
Total number of days on sick list	6,347	6,536	7,222
Average daily number on sick list	17·38	17·90	19·78
Percentage of daily sick to average number resident	1·82	1·94	2·17
Average number of days on sick list to each patient ...	7·37	12·33	14·53
Average sick time to each resident	6·68	7·10	7·95
Total number invalided	10	7	11
Percentage of invalidings to total resident ...	1·04	·75	1·18
Percentage of invalidings to average number resident	1·05	·76	1·21
Total deaths	4	7	7
Percentage of deaths to total residents	·41	·75	·75
Percentage of deaths to average number resident ...	·42	·76	·77

Causes of Invalidings and Deaths of African Officials.

Causes.	Invalided.	Died.
Abdominal tumour	—	1
Amnesia	1	—
Cardiac diseases	1	—
Corrosive sublimate poisoning	—	1
Chronic nephritis	—	1
Enteritis and acute nephritis	1	—
Hypertension, myocarditis	1	—
Injured chest	—	1
Malaria and pneumonia	—	1
Mitial disease with cardiac decomposition	1	—
Perineal abscess	—	1
Pneumonia	—	1
Pulmonary tuberculosis	2	—
Tachy cardia and M.T. Malaria	1	—
Ulcer left leg	1	—
Valvular disease of the heart	1	—
Mental confusion and insomnia	1	—
Total	11	7

12. TABLE SHOWING THE COMPARATIVE FIGURES OF THE HEALTH OF AFRICAN OFFICIALS FOR THE LAST TEN YEARS.

Year.	Average Number of Officials.	Number on Sick List.	Number of Days off Duty through Sickness.	Average Sick Time to each Official.	Number Invalided.	Percentage of Invalidings to Average Number.	Total Deaths.	Percentage of Deaths to Average Number.
1926	1,000	950	5,375	5·37	6	0·60	4	0·40
1927	1,000	933	7,919	7·91	20	2·00	4	0·40
1928	1,050	967	6,415	6·10	25	2·38	9	0·85
1929	969	1,057	7,486	7·72	8	0·83	6	0·61
1930	970	1,048	9,052	9·33	12	1·23	8	0·92
1931	884	959	7,863	8·5	11	1·24	7	0·79
1932	880	680	5,464	6·20	4	0·45	5	0·56
1933	950	861	6,347	6·68	10	1·05	4	0·42
1934	920	530	6,536	7·10	7	0·75	5	0·75
1935	908	497	7,222	7·95	11	1·21	7	0·77

TABLE IV.

Health of African Troops.

13. The figures shown below support the contention that the health of the African Troops has improved. There were no deaths, and the total number of men on the sick list shows a welcome decrease, and also the sick-rate per 1,000. The health of the troops must, therefore, be considered satisfactory.

Royal West African Frontier Force (Non-European).

Average Strength of Battalion in 1935.	Total Number of Deaths.	Death-rate per 1,000.	Total Number of Men on Sick List.	Sick Rate per 1,000.
382	—	—	366	958

TABLE V.

Health of African Police.

14. The strength of the Force has remained the same, namely 265. There was 1 death as against 2 in the previous year, and the total number of men on the sick list shows a decrease as also does the sick rate per 1,000. The health of the African police is, therefore, satisfactory.

Total Number of Men.	Total Number of Deaths.	Death-rate per 1,000.	Total Number of Men on Sick List.	Sick Rate per 1,000.
265	1	3·77	183	690

TABLE VI.

Health of Prisoners and Mental Patients.

15. A special report on these is found in Section III—" Prisons and Asylums."

TABLE VII.

Institutional Treatment.

16. There has been an increase in the number of in-patients treated both in the Colony and Protectorate. Out-patients also show a small increase. The number of subsequent attendances shows a very large increase. There is again an increase in the total number of deaths recorded which is due to both stricter control and the opening of additional registration offices. Registration is not compulsory except in stations where a medical officer or dispenser is resident and, therefore, these figures can only be approximate.

—	1933.	1934.	1935.
In-Patients:			
European Colony	114	103	143
European Protectorate	9	—	—
African Colony	2,964	3,500	3,655
African Protectorate	2,176	1,676	1,814
Out-Patients:			
European Colony	313	350	185
European Protectorate	95	115	176
African Colony	38,524	48,436	48,486
African Protectorate	53,445	47,418	49,058
Total	97,640	101,598	103,517
Deaths:			
European Colony	3	—	4
European Protectorate	1	—	1
African Colony	212	256	277
African Protectorate	86	78	102
Total	302	334	384
Percentage of deaths to total number treated ...	·30	·32	·37
Showing decrease or increase of total number of patients treated	+9,253	+3,958	+1,919
Subsequent attendances	254,796	339,845	362,119

17. The following table gives the numbers of diseases for which patients attended the various hospitals and dispensaries. Comparing the figures for 1935 with those for 1934, it will be noticed that there is a large increase in the number of cases of malaria and a decrease in the number of cases of yaws treated. There is a further increase in cases of avitaminosis which, as has already been stated, is due to an ill-balanced diet rather than to actual deficiency. Venereal diseases show a slight increase over the figures for the previous year.

	1934.	1935.
Malaria	6,197	7,718
Yaws	7,362	6,539
Acute rheumatism	4	—
Chronic rheumatism	7,559	7,642
Hemiplegia	123	110
Conjunctivitis	841	903
Affection of the ear	924	940
Hæmorrhoids	83	96
Lymphadenitis (bubo non-specific)	621	620
Coryza	1,031	1,100
Acute bronchitis	6,106	6,905
Chronic bronchitis	3,994	5,301
Asthma	198	202
Caries, pyorrhœa, etc.	1,539	1,627
Gastritis	563	440
Dyspepsia	4,350	3,827
Diarrhœa and enteritis	1,286	1,434
Ankylostomiasis	209	172
Hernia	946	924
Constipation	9,748	8,334
Acute nephritis	47	82
Schistosomiasis	89	65
Epididymitis	28	40
Orchitis	263	237
Hydrocele	325	262
Abscess	529	500
Scabies	961	1,296
Eczema	329	230
Osteitis	334	274
Arthritis	1,481	1,624
Wounds (by cutting or stabbing instruments)	857	745
Fracture	274	218
Other external injuries	3,756	5,132
Asthenia	845	951
Syphilis	476	566
Gonorrhœa	2,234	2,526
Avitaminosis	455	1,311

(*ii*) Communicable Diseases.

18. *Malaria.*—Preventive measures against malaria are detailed in Section IV—Hygiene and Sanitation. But it would not be out of place to stress the great benefit accruing from the inspection and treatment of trees in the prevention of mosquito-breeding. In Freetown during 1934, 28,901 trees were inspected with a larval index of 2·7 per cent., during 1935, 47,727 trees were inspected giving a larval index of 0·18 per cent., a reduction of 2·52 per cent. At Hill Station only 37 specimens of larvæ were found during 1935 as against 90 in 1934 and 482 in 1933. 156 Europeans were treated during the year which shows an increase of 54 over that of the previous year. There was 1 death from cerebral malaria in a child treated as an out-patient by a Mission doctor, and 1 death from black-water fever in a German treated in the bush in the Bombali District.

19. The following table shows the relative position of malaria as a cause of lost time in Europeans during the last five years. A slight decrease is shown as compared with 1934:—

Year.	Average Number Resident.	Total Sick Days.	Total Days spent on Sick List for Malaria.	Total Days spent on Sick List for other Causes	Percentage of Malaria Days to Total Days.	Number of Days lost through Malaria for year per 1,000 Residents.
1931	177	1,463	258	1,205	17·63	145
1932	176	1,235	370	865	29·95	210
1933	153	1,564	372	1,792	23·78	243
1934	144	1,231	595	636	48·33	413
1935	145	1,696	568	1,128	33·49	391

20 *In Africans.*—The figures for 1935 show a large increase as compared with those of the previous year. In 1934 there were 6,095 cases with 2 deaths, and in 1935, 7,562 with 10 deaths.

21. The following table gives the figures for the past three years:—

Diseases.	1933.	1934.	1935.
Malaria—tertian	513	26	83
Malaria—quartan	106	119	147
Aestivo-autumnal	1,563	852	631
Unclassified	4,321	5,185	6,836
Cachexia	37	13	14
Blackwater	8	2	7
Total cases of malaria (all types) ...	6,548	6,197	7,718

22. *Typhoid Fever.*—There were 19 cases of typhoid fever, of which 4 occurred in Europeans, 2 of these being reported from Bo. There were 15 cases among Africans in Freetown with 5 deaths. This is a marked increase over the figures for 1934, and is due to a localised outbreak amongst the Africans which was considered at the time to have been caused by the ingestion of infected shell-fish. The Sir Alfred Jones Research Laboratory investigated this outbreak and reported that, although some shell-fish showed fæcal contamination, it was unlikely that the outbreak could have been due to this cause as the custom is to eat the shell-fish either dried or cooked. It is, therefore, a matter of conjecture as to how this outbreak occurred, but in view of the fact that there are over 5,000 cesspits in Freetown it is quite feasible that the disease was fly-borne from this source.

23. *Blackwater Fever.*—Blackwater fever shows an increase of 5 over the previous year with 1 death, the fatal case occurring in a German mining engineer in the Bombali District.

24. *Trypanosomiasis.*—There were 4 cases reported during the year with no deaths. These cases were all reported from the Protectorate.

25. *Smallpox.*—The epidemic of smallpox has lessened to a very marked degree, and shows signs of petering out altogether in the very near future. Full details will be found in Section IV, sub-section B.

26. *Dysentery.*—There has been an increase in the number of cases of dysentery reported during 1935. Amongst Europeans there were 10 cases with no deaths, and amongst Africans there were 470 cases with 8 deaths.

27. *Tuberculosis.*—One case has been reported amongst Europeans. Amongst Africans there has been a decrease in the number of cases reported, 172 cases with 16 deaths as against 259 cases with 26 deaths. Whilst these figures are very gratifying they must be taken with considerable reserve.

28. *Leprosy.*—There is again an increase in the number of cases reported in 1935, 245 as against 212 in the previous year.

29. The leprosy survey which was commenced in 1935, and which was continued throughout the year, has now been completed. The figures which have been submitted from the various districts show that there are, approximately, 3,600 known cases of leprosy in the Colony and Protectorate. The question of leper settlements is now under consideration, and it is hoped that definite progress will be reported in the next annual report.

30. *Guinea Worm.*—No cases of guinea worm have been reported throughout the Colony and Protectorate during the year under review.

31. *Relapsing Fever.*—No cases have been reported during the year.

32. *Yaws.*—There has been a decrease of 823 cases in the number of cases of yaws reported.

33. *Venereal Diseases.*—It is regretted that there is a slight increase during the year under review. Both gonorrhœa and syphilis show increases.

Diseases.	1931.	1932.	1933.	1934.	1935.
Gonorrhœa	2,366	2,114	2,236	2,234	2,526
Syphilis	592	388	616	476	566
Total	2,958	2,502	2,852	2,710	3,092

34. *Beriberi.*—12 cases of beriberi with 3 deaths have been reported during the year under review. All these cases were reported as occurring in the Protectorate as sporadic cases in various districts.

35. *Avitaminosis.*—There is a marked increase in the number of cases of this disease. The cause and treatment of this disease is, at present, being investigated by Dr. E. J. Wright, Senior Medical Officer (Sierra Leone), and it is hoped to publish his report in due course. It may be mentioned in passing that nearly all these cases of avitaminosis react very readily to treatment by sulphur.

36. *Rabies.*—There were no cases of human rabies during the year under review. 38 people received anti-rabic treatment.

37. *Yellow Fever.*—There was a small outbreak of yellow fever in the early part of the year. The first case was that of an European official who died in the European Hospital. The next case (an African) to make its appearance occurred within the city boundaries. There were 16 doubtful cases reported in Africans, and there were no deaths. The blood of these patients was forwarded to Lagos for the protection test. Only 2 cases gave a positive result. It is considered, therefore, that the other 14 cases, although very similar to the positive case in their clinical aspect, could not, in all probability, have been yellow fever. This small outbreak is closely allied to that which occurred in Kano during the latter part of 1934 when several cases of clinical yellow fever occurred amongst Africans, but only one or two gave a positive protection test. This outbreak is fully reported in Appendix G.

38. *Cancer.*—There was a slight increase in the number of cases of cancer, 44 being treated in 1935 as against 41 in 1934. Only those cases actually diagnosed histologically are shown as cancer.

(*b*) VITAL STATISTICS.

General Population.

REPORT OF THE CHIEF REGISTRAR OF BIRTHS AND DEATHS.

General.

39. The table hereunder shows clearly the administrative and executive staffs of births and deaths registration. Comparison with previous tables will demonstrate that it has now been possible to set up registration machinery covering the whole of the Colony.

The present staff consists of:—

The Chief Registrar
The Deputy Chief Registrar } Stationed in Freetown.
The Chief Registrar's clerk

	Colony.	Protectorate.
Registrars stationed at	Freetown	Pujehun
	Regent	Shebar
	Wilberforce	Moyamba
	Kissy	Bo
	Tassoh Island	Daru
	Murray Town	Makeni
	Wellington	Port Loko
	Hastings	Panguma
	Hamilton	Sefadu
	Sussex	
	Kent	
	Waterloo	
	Russell	
	York	
	Makomba	
	Sougo Town	
	Bananas Island	
	Sherbro Judicial District	
Deputy Registrars stationed at	Freetown	Pujehun, Sulima, Potoru, Sumbuya, Matru, Moyamba, Sembehun, Bauya, Mabang, Mano, Bo, Kenema, Segbwema, Daru, Bandajuma, Pendembu, Kailahun, Kabala, Makeni, Port Loko, Batkanu and Kambia.
	Clinctown	

40. The appointment of Chief Registrar is held *ex officio* by the Assistant Director of Medical Services, and that of the Deputy Chief Registrar by the Medical Officer (Health), *ex officio*. Registrars, 27 in number, are appointed by the Governor and are chosen from the Medical Officers or from educated citizens in non-medical stations. Deputy Registrars posts 23 in number, are filled by dispensers or educated citizens.

41. The system of registration remains as in former years and is here quoted merely for easy reference—

(*a*) It is compulsory in the case of all non-natives born or dying in the Protectorate. The term non-natives is meant to cover Europeans, Asiatics, etc., and Colony-born Africans.

(*b*) It may be made compulsory in any chiefdom or part of a chiefdom, in respect of all natives born or dying in such chiefdom or part of a chiefdom, but only when request to Government has been made by the Paramount Chief concerned.

(*c*) Notwithstanding the above provisions, any native in the Protectorate may, if he so wishes, give information of a person born or dying in the Protectorate, i.e. Permissive Registration.

42. As previously stated, the present organisation now covers the whole of the Colony, though it must still be pointed out that the figures obtained cannot be taken as a true indication of the morbidity of the people. Only in Freetown do the figures in any way approximately disclose true conditions owing to rigid control of cemeteries and the detection of live births by the Sanitary Inspectors and Health Visitors in the course of their daily duties.

43. Registration in the Protectorate has been extended in a small degree by making it compulsory in all those health areas where chiefs have made suitable request, but even this increase only brings the total of the people subject to registration to the low figure of ·7 per 1,000 living. Permissive registration is but seldom used by the Protectorate natives, and only time and education can change these conditions.

Population.

44. The 1931 Census gave the following figures:—

Comparative Populations of Freetown, Colony and Protectorate, 1931.

———	Males.	Females.	Persons.
Whole Colony	52,552	43,870	96,422
Freetown (including Clinetown)	30,011	25,347	55,358
Colony (excluding Freetown and Clinetown) ...	22,541	18,523	41,064
Protectorate	796,392	875,666	1,672,058
Natives	793,877	873,913	1,667,790
Non-natives	2,515	1,753	4,268

45. It has been possible to estimate a crude increase of population in the case of Freetown only; the 1935 mid-year population is estimated at 60,903 and the rates quoted in various tables are calculated on this figure.

46. No major legislation affecting registration was enacted during the year, but two minor measures of great importance were passed under powers contained in the present Ordinance, viz:—

1. Order in Council No. 12 of 1935—The Registration Districts (Colony) which set up machinery covering the whole Colony.

2. Order in Council No. 20 of 1935—The Births and Deaths Registration (Chiefdoms), which brought nineteen Health Areas under the provisions of the Ordinance.

Registration in Freetown.

47. *Births.*—The number of births registered shows a small increase over those of 1934, while the rate per 1,000 also shows a small increase even when calculated on the estimated mid-year population for 1935, viz. 60,903.

48. A table comprising the figures and rates per 1,000 for the past three years is given below:—

Year.	Births.			Rate per 1,000 Population.
	Males.	Females.	Total.	
1933	691	687	1,378	23·6
1934	690	649	1,339	22·4
1935	707	651	1,358	22·9

The proportion of male to female births was 108·6 : 100.

49. *Deaths.*—Although the number of deaths recorded in 1935 shows a small increase of those in 1934, the rate per 1,000 calculated on the estimated mid-year population is lower than in 1934; the small increase fell mainly on females.

50. A table comprising the figures and rates per 1,000 for the past three years is given below:—

Year.	Deaths.			Rate per 1,000 Population.
	Males.	Females.	Total.	
1933	686	543	1,229	21·1
1934	774	587	1,361	22·8
1935	740	635	1,375	22·5

The number of deaths registered under medical certificates again shewed a small increase, the rate increasing by ·2 per cent. of all deaths registered.

51. As in former years all cases of non-certified deaths were investigated by the Medical Officer (Health) and his officers prior to registration. Though carried out primarily in the interests of public health, these investigations and the information elicited do enable a provisional diagnosis to be made, and though far from ideal, it is all that can equitably achieved until by the slow process of evolution the population has learned the value of skilled medical aid.

52. The table below gives a list of those diseases which are shown as the main causes of deaths. Notwithstanding the heavy and prolonged rains experienced during 1935, respiratory diseases and malaria show a decrease when compared with 1934; the effect of such climatic conditions however is reflected in the increased figures shown for senility, pulmonary tuberculosis and nephritis.

———	Number.	Proportion per 1,000 Deaths from all Causes.	Certified.
Bronchitis and pneumonia	222	160	52
Malaria	179	130	13
Pulmonary tuberculosis	84	61	29
Senility	80	58	15
Dysentery, diarrhœa & enteritis	73	53	17
Infantile convulsions	64	46	4
Nephritis	61	44	28
Cerebral hæmorrhage	45	32	8
Valvular disease	41	29	9
Prematurity	21	15	14
Strangulated hernia	15	10	2
Hemiplegia	14	10	5

A general list of the causes of deaths is given in Table " M."

53. *Infantile and Child Mortality.*—The rate for 1935 again shewed a decrease, being 227 as compared with 233 for 1934; as in former years the greatest incidence of mortality fell within the first three months of birth by which time 67·8 of all deaths under one year had taken place.

54. The figure of 227 per 1,000 live births appears high when compared with rates obtaining in more organised communities situated in temperate climates, but the figure is low when compared with former years before ante-natal and child welfare work had been instituted by Government, and the gradual extension of these services and their greater utilisation by the people leads one to the confident prediction that the infantile mortality rate will show a gradual reduction through succeeding years.

55. The accompanying tables "C. D. E." show in comparative form the births, deaths and infantile mortality rates for the whole Colony, Freetown, and the Colony excluding Freetown respectively, while from Table "F," which shows the infantile mortality rate for Freetown at certain age periods, it will be seen that 35·3 per cent. of all children born failed to survive the first five years, and that of these deaths the first year took a total of 21·6 per cent. It should here be noted that the rate for deaths under one year for 1935, shows an improvement of 1·3 per cent. on the figures for 1934.

56. Table " G " shows the principal causes of death in infants under one year. When compared with a similar table for 1934 it will be seen that Malaria, Bronchitis, Broncho-pneumonia and Prematurity claimed less victims, but that a greater number were shown as succumbing to Infantile convulsions and " ill-defined causes."

57. *Maternal Mortality*.—It is satisfactory to be able to record a substantial drop in these figures for 1935. Notwithstanding the greater number of total births, the number of fatal results in parturient women fell from 21 to 16 and the rate per 1,000 live births fell 15·6 to 10·78 in 1935. Table " H " gives the causes of death.

Registration in the Colony.

58. As explained in the general remarks, no reliance can be placed on the figures obtained from the registration districts in the Colony outside Freetown. At the best, they represent but a proportion of the births or deaths taking place, and cannot be used for the compilation of any accurate figures. The machinery exists but only time and customs will induce the African to register, and this desirable object is better achieved by persuasion than by coercion.

59. The figures of births, deaths and infantile mortality rates for the Colony, excluding Freetown, are shown in Table " E."

Registration in the Protectorate.

60. During the year it was found possible to extend the scope of the organisation to embrace nineteen Protectorate towns and though the population covered thereby is not great, the extension will at least give us comparative figures on which to commence the compilation of tables showing the difference in morbidity in the Protectorate and Colony.

61. As in former years merely the total births and deaths for 1935 are given; their greater numbers do at least show that the scope of registration is spreading.

J. A. A. DUNCAN,
Chief Registrar.

TABLE A.

Births and Deaths recorded at all Registration Districts in the Colony—1935.

DISTRICTS	BIRTHS.			DEATHS.			DEATHS UNDER TWELVE MONTHS.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Freetown and Clinetown ...	707	651	1,358	740	635	1,375	163	145	308
Murray Town	36	29	65	40	35	75	14	10	24
Wilberforce	55	43	98	37	41	78	9	13	22
Regent	24	25	49	22	16	38	8	2	10
Kissy	24	24	48	75	52	127	5	10	15
Wellington	57	34	91	47	48	95	14	7	21
Hastings	53	41	94	63	43	106	12	13	25
Waterloo	54	64	118	49	33	82	6	5	11
*Makomba	5	1	6	3	—	3	—	—	—
Songo Town	78	48	126	57	39	96	10	1	11
*Russell	9	6	15	8	4	12	2	3	5
Tombo	42	29	71	38	28	66	11	8	19
Kent	9	9	18	14	8	22	1	2	3
Bananas Island	9	4	13	4	3	7	2	1	3
York	25	28	53	17	13	30	4	—	4
*Sussex	—	—	—	—	—	—	—	—	—
Hamilton	13	8	21	14	8	22	5	4	9
Tassoh Island	39	41	80	32	31	63	15	13	28
Sherbro Judicial ...	37	28	65	64	63	127	23	11	34
Total	1,276	1,113	2,389	1,324	1,100	2,424	304	248	552

*Opened in December, 1935.

TABLE B.

Births and Deaths recorded at all Registration Districts in the Protectorate—1935.

DISTRICTS.	BIRTHS.			DEATHS.			DEATHS UNDER TWELVE MONTHS.		
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.
Northern Province.									
Port Loko	11	7	18	3	3	6	1	1	2
Kambia	8	7	15	25	22	47	5	6	11
Batkanu	10	10	20	8	9	17	1	5	6
Makeni	9	9	18	19	17	36	—	3	3
Kabala	5	6	11	3	10	13	—	—	—
Southern Province.									
Mabang	8	3	11	8	14	22	3	5	8
Banya	2	2	4	1	—	1	—	—	—
Moyamba	12	12	24	1	4	5	1	1	2
Sembehun	1	1	2	14	9	23	2	—	2
Mano	3	4	7	2	2	4	—	—	—
Bo	7	5	12	6	1	7	1	—	1
Sumbuya	2	1	3	7	8	15	—	1	1
Kenema	2	6	8	5	6	11	1	1	2
Panguma	13	13	26	13	21	34	4	4	8
Kono	4	2	6	4	1	5	—	—	—
*Bandajuma	2	3	5	4	3	7	1	1	2
*Segbwema	1	—	1	—	—	—	—	—	—
Daru	6	4	10	1	—	1	—	—	—
Pendembu	3	6	9	4	7	11	2	2	4
Kailahun	8	11	19	35	51	86	8	10	18
Pujehun	79	112	191	24	19	43	3	4	7
*Potoru	5	10	15	6	4	10	1	—	1
Sulima	5	11	16	—	—	—	—	—	—
*Matru	14	9	23	5	10	15	—	2	2
Shebar	3	—	3	4	3	7	1	—	1
Total ...	223	254	477	202	224	426	35	46	81

*Opened in December, 1935.

TABLE C.

Births, Deaths and Infant Mortality Rates for the whole Colony of Sierra Leone (including Freetown), for the last five years.

Year.	Estimated Mid-year Population.	Births Registered.	Crude Birth-rate per 1,000 Population.	Deaths Registered.	Crude Death-rate per 1,000 Population.	Number of Deaths under Twelve Months.	Infant Mortality per 1,000 Live Births.
1931	96,633	2,101	21·7	2,305	23·9	556	265
1932	97,921	2,439	24·9	2,404	24·5	567	233
1933	99,239	2,326	23·4	2,205	22·2	540	232
1934	100,587	2,273	22·5	2,384	23·7	530	233
1935	101,967	2,389	23·4	2,424	23·7	552	231

TABLE D.

Births, Deaths and Infant Mortality Rates, Freetown, 1931–1935.

1931	55,569	1,263	22·7	1,380	24·8	365	289
1932	56,857	1,276	22·4	1,400	24·6	348	272
1933	58,175	1,378	23·6	1,229	21·1	317	230
1934	59,523	1,339	22·4	1,361	22·8	312	233
1935	60,903	1,358	22·9	1,375	22·5	308	227

TABLE E.

Births, Deaths and Infant Mortality Rates, Colony (excluding Freetown), for the last five years.

1931	41,064	838	20·4	925	22·5	191	228
1932	41,064	1,163	28·3	1,004	24·4	219	188
1933	41,064	948	23·0	976	23·7	223	235
1934	41,064	934	22·7	1,023	24·9	218	233
1935	41,064	1,031	25·0	1,049	25.5	244	236

TABLE F.

Number of deaths in certain periods under one year and during next four years of age.

Freetown, 1935.

—	No. of Deaths.	Percentage of Deaths under One Year.	Death-rate per 1,000 Live Births.
Under 24 hours	42	13·6	30·9
1–7 days	81	26·2	59·6
1–2 weeks	32	10·3	23·5
Total under 2 weeks*	155	50·3	11·4
2–4 weeks	21	6·8	15·4
Total under 1 month	176	57·1	129·6
1–3 months	33	10·7	24·3
Total under 3 months	209	67·8	153·9
3–6 months	39	12·6	28·7
6–9 months	33	10·7	24·3
9–12 months	27	8·7	19·8
Total under 1 year	308	100	226·8

—	No. of Deaths.	Percentage of Total Deaths.	†Death-rate per 1,000 Living at all Ages.
0–1 year	308	21·6	5·05
1–2 years	80	5·8	1·31
2–3 „	42	3·0	0·68
3–4 „	35	2·5	0·57
4–5 „	21	1·5	0·34
Total 1–5 years ...	178	12·9	2·92
Total 0–5 years ...	486	35·3	7·97
Deaths at all ages ...	1,375	—	22·5

* This represents the period within which births must be registered.

† The death-rate per 1,000 living at each age is not available because of the unusual age grouping adopted in the Census Report.

TABLE G.

Causes of Deaths under twelve months.

Freetown, 1935.

International List Number.	Causes.	No.	Certified.
6 ...	Smallpox	1	—
7 ...	Measles	1	1
9 ...	Whooping cough ...	1	—
22 ...	Tetanus	3	—
22 ...	Tetanus neonatorum ...	7	5
23 ...	Pulmonary tuberculosis ...	2	—
36a ...	Septicaemia	1	—
38 ...	Malaria	48	2
38 ...	Tertian malaria	2	2
43 : 2 ...	Thrush	3	1
63 : 1 ...	Rickets	1	—
86 ...	Infantile convulsions ...	46	1
106 ...	Bronchitis	14	—
107 ...	Broncho-pneumonia ...	12	3
108 ...	Lobar pneumonia ...	1	1
109 ...	Pneumonia	7	2
115 : 1 ...	Ulcerated mouth ...	1	—
118 : 1 ...	Gastritis	1	1
118 : 2 ...	Hyperemesis	1	1
119 & 120a : 2	Enteritis	2	1
119 & 120a : 2	Diarrhoea	4	2
119 & 120a : 2	Gastro-enteritis	1	1
122a : 2 ...	Umbilical hernia ...	1	1
122b ...	Intestinal obstruction ...	1	1
123 : 1 ...	Constipation	1	—
133a ...	Pyelonephrosis	1	1
150 : 3 ...	Labour (unqualified) ...	1	1
152 : 1 ...	Cellulitis	1	1
158 ...	Inanition	2	1
158 ...	Marasmus	7	1
158 ...	Congenital Debility ...	11	11
158 ...	Malnutrition	3	3
159 ...	Prematurity	22	14
159 ...	Twin birth	2	2
159 ...	Nondevelopment ...	5	5
160 ...	Dystocia	1	1
161a ...	Asphyxia Neonatorum ...	2	2
161a ...	Atelectasis	1	1
161c ...	Infected navel	3	—
161c : 1 ...	Umbilical Hæmorrhage ...	1	1
161c : 1 ...	Septic Infection of umbilicus	3	—
200 : 1 ...	Exhaustion (cardiac) ...	2	—
200 : 2 ...	Pyrexia	1	—
200 : 2 ...	Abdominal disease ...	1	—
200 : 3 ...	Unknown	75	—

TABLE H.

Maternal Deaths associated with Pregnancy and Child-bearing, Freetown, 1935.

International List Number.	Causes of Death.	Number of Deaths.			Maternal Mortality Rates per 1,000 Live Births.
		Certified.	Uncertified.	Total.	
144b	Post-partum hæmorrhage	1	—	1	Puerperal hæmorrhage=0·7
145a	Puerperal sepsis ...	1	1	2	Puerperal sepsis=1·4
146 : 1	Ante-partum eclampsia ...	1	—	1	Puerperal albuminuria and convulsions=1·4
146 : 2	Albuminuria of Pregnancy	1	—	1	
147	Toxæmia of pregnancy ...	1	—	1	Other or unspecified conditions of the puerperal state=8·1
150 : 3	Labour (unqualified) ...	3	—	3	
150 : 3	Child-birth (unqualified) ...	—	5	5	
150 : 3	Parturition (unqualified) ...	1	—	1	
141 : 2	Abortion (unqualified) ...	—	1	1	
	Total	9	7	16	

The maternal mortality rate was 11·78 per 1,000 live births (10·78 per 1,000 total births).

TABLE I.

Deaths at various Ages up to Twelve Months with Percentages of Total Deaths under Twelve Months, Freetown, 1934 and 1935.

EAR.	Number of Deaths at Ages and Percentages of Total Deaths Under Twelve Months.									
	Under 24 Hours.	24 Hours to 2 Weeks.	Total under 2 Weeks.	2–4 Weeks.	Total under 1 Month.	1–3 Months.	Total under 3 Mouths.	3–6 Months.	6–12 Months.	Total under 12 Months.
934	60 or 19·2 per cent.	92 or 29·4 per cent.	152 or 48·7 per cent.	22 or 7·0 per cent.	174 or 55·7 per cent.	38 or 12·1 per cent.	212 or 67·9 per cent.	37 or 11·8 per cent.	63 or 20·1 per cent	312
935	42 or 13·6 per cent.	113 or 36·6 per cent.	155 or 50·3 per cent.	21 or 6·8 per cent.	176 or 57·1 per cent.	33 or 10·7 per ceut.	209 or 67·8 per cent.	39 or 12·6 per cent.	60 or 19·4 per cent.	308

TABLE J.

Principal Causes of Deaths, Freetown (including Cline Town), 1935.

———	No.	Proportion per 1,000 Deaths from all Causes.	Certified.
Bronchitis and pneumonia	220	160	52
Malaria	179	130	13
Pulmonary tuberculosis	84	61	29
Senility	80	58	15
Dysentery, diarrhœa and enteritis ...	73	53	17
Infantile convulsions	64	46	4
Nephritis	61	44	28
Cerebral hæmorrhage	45	32	8
Valvular disease	41	29	9
Prematurity	21	15	14
Strangulated hernia	15	10	2
Hemiplegia	14	10	5

The number of deaths registered on Medical Certificate was 441, comprising 32·0 per cent. of the deaths registered.

TABLE K.

Death Certificates, Freetown and Kissy, 1934 and 1935.

YEAR.	European Hospital.	Connaught Hospital.	P. C. M. Hospital.	Kissy Institution.	Private Practitioners.	Ships in Harbour.
1934	—	269	28	49	137	—
1935	4	251	25	79	161	—

TABLE L.

Mortality according to Age and Sex.—Freetown, 1935.

——	Under 24 hours.	24 hours to 1 year.	1–5 years.	5–15 years.	15–25 years.	25–45 years.	45–65 years.	65 years and over.	——
Males	22	142	78	27	43	197	135	92	736
Females	20	124	100	26	33	120	106	110	639
Persons ...	42	266	178	53	76	317	241	202	1,375

TABLE M.

Causes of Death—Freetown (including Cline Town), 1935.

International List Number.	Cause.	No.	Certified.
1 ...	Typhoid fever	5	4
6 ...	Smallpox	1	—
7 ...	Rubeola	3	3
7 ...	Measles	1	1
9 ...	Pertussis	3	—
9 ...	Whooping cough	1	—
13 ...	Dysentery	37	3
13a ...	Amœbic dysentery ...	2	2
13b ...	Bacillary dysentery ...	3	3
22 ...	Tetanus	15	8
22 ...	Tetanus neonatorum ...	7	5
23 ...	Phthisis	1	—
23 ...	Pulmonary tuberculosis ...	84	29
25 ...	Intestinal Tuberculosis ...	1	1
25 ...	Abdominal tuberculosis ...	1	1
26 ...	Spinal caries	1	1
32c ...	Generalised tuberculosis ...	2	2
34b, c ...	Tertiary syphilis	1	1
35 : 2 ...	Gonorrhoea	1	—
36a ...	Septic absorption	1	1
36a ...	Septicæmia	14	2
36b ...	Pyæmic Abscess	1	1
36b ...	Pyæmia	1	1
38 ...	Malaria	179	13
38 ...	Tertian Malaria	3	2
38 ...	Malarial cachexia	1	1
39 ...	Yaws	5	1
40 ...	Ankylostomiasis	4	1
42 ...	Ascariasis	4	—
42 ...	Worms	1	—
43 : 2 ...	Thrush	3	1
44 : 6 ...	Blackwater fever	3	3
45 ...	Cancer of mandible ...	2	2
46 ...	Cancer of liver	1	1
47 ...	Cancer of larynx	1	1
48 ...	Cancer of body of uterus ...	2	—
49 ...	Cancer of ovary	1	1
52 ...	Sarcoma of abdominal wall	1	1
53 ...	Cancer of bladder ...	1	1
53 ...	Cancer of neck	1	1
53 ...	Cancer (unqualified) ...	2	2
53 ...	Cancer of eye	1	1
54a ...	Fibroid uterus	2	2
56 ...	Rheumatism	2	—
57 : 1 ...	Chronic rheumatism ...	17	—
57 : 2 ...	Arthritis	1	1
57 : 2 ...	Septic arthritis	1	1
59 ...	Diabetes mellitus	2	2
63 : 1 ...	Rickets	7	6
69 : 2 ...	Toxæmia	2	1
71b : 2 ...	Anæmia	2	2
73 : 2 ...	Enlargement of spleen ...	1	—
73 : 2 ...	Rupture of spleen ...	1	1
78b ...	Encephalitis	1	1
81 : 1 ...	Progressive bulbar paralysis	1	1
82a ...	Cerebral hæmorrhage ...	45	8
82a : 2 ...	Cerebral œdema	1	1
82c : 1 ...	Hemiplegia	14	5
82c : 2 ...	Paraplegia	1	—
85 ...	Epileptic fit	2	2
85 ...	Epilepsy	1	1
86 ...	Infantile convulsions ...	64	4
87c ...	Paralysis agitans	1	1
87e ...	Convulsions (idiopathic) ...	1	1
87e ...	Nervous debility	2	2
87e ...	Neurasthenia	1	1
92 : 1 ...	Aortic incompetency ...	3	3

TABLE M—*continued.*

Causes of Death—continued.

International List Number.	Cause.	No.	Certified.
92 : 2 ...	Mitral stenosis	2	2
92 : 2 ...	Mitral incompetency ...	1	1
92 : 2 ...	Mitral regurgitation ...	1	1
92 : 4 ...	Endocarditis	2	2
92 : 5 ...	Valvular disease	41	9
93b : 1 ...	Fatty degeneration of heart	1	1
93c ...	Myocarditis	1	1
95b : 1 ...	Cardiac dilatation ...	1	1
95b : 2 ...	Cardiac disease	4	3
96 ...	Aneurysm of aorta ...	3	3
96 ...	Arterio-venous aneurysm ...	1	1
96 ...	Aneurysm	1	1
97 ...	Atheroma of arteries ...	2	2
98b ...	Gangrene of scrotum ...	1	1
98b ...	Cancrum oris	1	—
99 ...	Aortitis	1	1
103 ...	Internal hæmorrhage ...	2	1
105 ...	Laryngitis	1	1
105 : 2 ...	Oedema glottidis	1	1
105 : 3 ...	Stenosis of Larynx ...	1	1
106 ...	Bronchitis	42	2
106a ...	Acute bronchitis	3	1
106b ...	Chronic bronchitis ...	4	—
107 ...	Broncho-pneumonia ...	59	10
108 ...	Lobar pneumonia ...	33	31
109 ...	Pneumonia	78	7
109 ...	Double pneumonia ...	1	1
110 : 1 ...	Empyema	1	1
110 : 2 ...	Pleurisy	6	2
111 : 1 ...	Oedema of lungs	1	1
111 : 1 ...	Active congestion of lungs ...	1	—
115 : 1 ...	Septic mouth	1	1
115 : 1 ...	Ulcerative stomatitis ...	2	—
115 : 1 ...	Ulceration of mouth ...	1	—
115 : 2 ...	Cellulitis of neck	1	1
118 : 1 ...	Acute gastritis	2	2
118 : 2 ...	Hyperemesis	1	1
118 : 2 ...	Dyspepsia	3	—
119 & 120a : 2	Diarrhœa	22	6
119 & 120a : 2	Enteritis	14	8
119 & 120a : 2	Gastro-enteritis	5	3
119 & 120a : 2	Chronic enteritis	5	4
119 & 120a : 2	Intestinal toxæmia ...	2	2
121 ...	Appendicitis	1	1
122a : 1 ...	Strangulated hernia ...	15	2
122a : 2 ...	Hernia	1	—
122a : 2 ...	Umbilical hernia	1	1
122b ...	Intestinal obstruction ...	6	4
123 : 1 ...	Intestinal auto-intoxication	1	1
123 : 1 ...	Constipation	3	—
123 : 3 ...	Prolapse of rectum ...	1	—
123 : 3 ...	Recto-vaginal fistula ...	1	1
124b ...	Cirrhosis of liver	3	3
125 : 2 ...	Hepatic abscess	1	1
125 : 2 ...	Supperative pylephlebitis ...	1	1
125 : 2 ...	Hepatitis	1	1
129 ...	Peritonitis	7	3
129 ...	General peritonitis ...	1	1
130 ...	Acute nephritis	7	5
131 ...	Chronic nephritis ...	29	18
132 ...	Nephritis	25	5
132 ...	Uræmia	1	1
133a ...	Pyonephrosis	2	1
135a ...	Cystitis	2	2
135b ...	Retention of urine ...	6	2
136a ...	Stricture of the urethra ...	3	1
136b ...	Perineal abscess	1	1

TABLE M—*continued.*

Causes of Death—continued.

International List Number.	Cause.	No.	Certified.
136b ...	Extravasation of urine ...	1	1
137 ...	Adenoma of prostate ...	1	1
137 ...	Hypertrophy of prostate ...	2	2
137 ...	Enlargement of prostate ...	3	3
139a : 2 ...	Pyosalpinx	1	1
139b ...	Meno pause	1	—
139b ...	Retained menses	1	—
141 : 2 ...	Abortion (unqualified) ...	1	—
144b ...	Post-partum hæmorrhage ...	1	1
145a ...	Puerperal sepsis	2	1
146 : 1 ...	Ante-partum eclampsia ...	1	1
146 : 2 ...	Albuminuria of pregnancy ...	1	1
147 ...	Toxæmia of pregnancy ...	1	1
150 : 3 ...	Labour (unqualified) ...	3	3
150 : 3 ...	Childbirth (unqualified) ...	5	—
150 : 3 ...	Parturition (unqualified) ...	1	1
152 : 1 ...	Cellulitis	1	1
152 : 2 ...	Multiple abscess	1	1
153 ...	Ulcer (unqualified) ...	3	2
154 ...	Osteomyelitis	1	1
155 ...	Abscess of jaw	1	1
158 ...	Asthenia	1	—
158 ...	Congenital debility ...	11	10
158 ...	Inanition	2	—
158 ...	Malnutrition	5	5
158 ...	Marasmus	12	2
158 ...	Maldevelopment	2	2
159 ...	Prematurity	21	14
159 ...	Twin birth	2	2
160b ...	Dystocia	1	1
161a ...	Atelectasis	1	1
161a ...	Asphyxia neonatorum ...	3	3
161c : 1 ...	Umbilical hæmorrhage ...	1	1
161c : 1 ...	Infected navel	3	—
161c : 1 ...	Septic infection of umbilicus	3	—
162b ...	Senility	80	15
163 ...	Suicide by liquid poison ...	1	1
180 ...	Conflagration (injuries) ...	6	6
182 ...	Suffocation (unqualified) ...	1	—
189 ...	Destitution	3	2
194 : 2 ...	Accidental fracture ...	4	3
194 : 2 ...	Accidental concussion ...	1	1
195 ...	Found drowned	3	3
198 ...	Judicial execution ...	2	2
200 : 1 ...	Cardiac failure	5	—
200 : 1 ...	Cardiac exhaustion ...	2	—
200 : 1 ...	Heart failure	7	5
200 : 2 ...	Abdominal disease ...	2	—
200 : 2 ...	Coma	1	1
200 : 2 ...	Hyperpyrexia	1	1
200 : 2 ...	Pyrexia	1	—
200 : 3 ...	Collapse	1	1
200 : 3 ...	Unknown and Ill-defined ...	97	13

TABLE N.

Showing the population of Freetown and the Colony by nationality and sex at the Census of 1931.

	FREETOWN.			COLONY Apart from Freetown.			WHOLE COLONY.		
	Persons.	Males.	Females.	Persons.	Males.	Females.	Persons.	Males.	Females.
Protectorate native tribes	28,233	17,115	11,118	28,696	17,133	11,563	56,929	34,248	22,681
*Sierra Leoneans (Creoles)	20,970	9,353	11,617	11,876	5,085	6,791	32,846	14,438	18,408
Kroos (from Liberia)	4,460	2,392	2,068	21	12	9	4,481	2,404	2,077
Other African non-natives (from Nigeria, Gold Coast, Gambia, etc.	580	384	196	104	70	34	684	454	230
West Indians	83	55	28	13	8	5	96	63	33
Mulattoes	121	58	63	28	8	20	149	66	83
Various	226	166	60	148	97	51	374	263	111
†Europeans	286	210	76	‡135	99	36	421	309	112
‡Syrians	375	258	117	38	24	14	413	282	131
§Indians	19	16	3	4	4	—	23	20	3
Arabs (of African birth)	5	4	1	1	1	—	6	5	1
Total	55,358	30,011	25,347	41,064	22,541	18,523	96,422	52,552	43,870

* Creoles are the descendants of Liberated Africans who were placed in Sierra Leone in accordance with the enactments made for the suppression of the slave trade. They represent the Christain and educated class and are sometime called Sierra Leoneans. In Freetown their numbers increased from 15,791 in 1921 to 20,970 in 1931. The increase is partly due to persons returning from the Protectorate owing to lack of trade, and to the fact that there is a tendency for persons of purely aboriginal blood having embraced Christianity and obtained a little education, to describe themselves as Sierra Leonean. In the reminder of the Colony their numbers decreased by 555, which probably indicates a gradual movement from rural places to Freetown.

†The great majority are Government officials who live on the residential area at Hill Station, which is situated on the hills near Freetown.

‡Of the total 413 Syrians, 90·8 per cent. reside at Freetown, where their numbers increased from 156 to 375 in the intercensal period. Elsewhere in the Colony their numbers increased from 21 to 38. Many have brought their wives and children out; the latter increased from 45 in 1921 to 131 in 1931. Of the total 22·7 per cent. were born in Sierra Leone. The males are all engaged in trade as merchant or as their clerks, salesmen or shop assistants. The Syrians are now well established as successful traders both in the Colony and Protectorate *vide infra* and a steady increase in their numbers may be expected.

§The number of Indians appears to fluctuate with trade conditions generally. In 1911 there were 24 in the Colony, 4 in 1921 and 23 in 1931. In 1921 there were 15 in theProtectorate, in 1931 only 2.

TABLE O.

Protectorate Population, Census 1931.

—	*Non-Natives.									Aboriginal Natives.
	†Creoles.	§Europeans.	‡Syrians.	Indians.	Arabs.	West Indians.	¶Mullattoes.	Miscellaneous.	Total.	
Males ...	1,632	173	561	2	14	6	81	46	2,515	793,877
Females ...	1,414	58	192	—	3	—	60	26	1,753	873,913

*This represents the population for which registration of births and deaths is compulsory. Registration applies only to comparatively small and isolated districts where trading activities attract the presence of non-natives. Their number decreased by 339 during the intercensal period.

†The Creoles are for the most part traders, mercantile clerks, Government officials, catechists and school teachers. Their number decreased by 789 in the intercensal period, probably owing to the recent trade depression.

§The number of Europeans has been increased since the Census by the presence of staffs engaged in mining operations at Marampa, Makong, Maranda, Tonkolili, Yengema and various small prospecting camps throughout the Protectorate. Vital statistics for European officials and non-officials will be found on pages 4 and 5.

‡The Syrian population increased from 386 to 753, of whom 134 were born in Sierra Leone.

¶81·5 per cent. are African-Syrian.

TABLE P.

Showing population according to sex and sex-ratio at 1931 Census, total population figures for 1931 and mid-year (estimated) 1934, births and death-rates at Freetown and at Accra, Kumasi and Sekondi in the Gold Coast, 1934.

———	Population.					Births 1934.	Birth-rate 1934.	Deaths 1934.	Death-rate 1934.	Deaths under one year 1934.	Infant Mortality.
	1931.				Mid-year 1934.						
	Males.	Females.	Ratio: Males : Females.	Persons.							
Freetown	30,011	25,347	118·4 : 100	55,358	59,523	1,339	22·4	1,361	22·8	312	233
Accra	32,833	27,893	117·7 : 100	60,726	67,097	2,827	42·1	1,514	22·6	—	113
Kumasi	21,219	14,610	140·5 : 100	35,829	39,773	957	24·1	782	19·7	—	117
Sekondi	10,020	6,933	144·5 : 100	16,953	19,375	398	20·5	275	14·2	—	110
England and Wales ...	—	—	92 : 100	—	—	—	—	—	11·8	—	59

III—Prisons and Asylums.

KISSY LUNATIC ASYLUM.

62. *Staff.*—Medical Officer-in-charge
First Class Dispenser
Chief Attendant
Assistant Chief Attendant
11 Male Attendants
Matron
3 Female Attendants
1 Cook
4 Porters.

63. There has been a slight increase in the number of deaths during the period under review, a total number of 11 as against 10 in 1934.

The deaths were due to the following:—

1. Gastro enteritis
2. Amœbic dysentery
3. Broncho-pneumonia
4. Pleurisy with pneumonia inflammation of intestines chronic kidney diseases
5. Sapræmia due to pyæmic abscesses of lungs and liver cystitis
6. Subacute nephritis. Uræmic convulsions
7. Lobar pneumonia (lower lobe of left lung) aterio sclerosis
8. Gastro enteritis
9. Hypostatic pneumonia. Chronic endocarditis
10. Hæmoptysis due to rupture of acute aneurism
11. Left-sided lobar pneumonia.

64. The Male Visiting Committee made four visits, and the Female Committee one visit. Parties from various religious associations made ten visits.

The following table gives the statistical details of in-patients during the year:—

	Males.	Females.	Total.
Remaining in the Asylum 31st December, 1934	57	33	90
Admitted under observation	41	22	63
Admitted certified	3	—	3
Deaths amongst certified	10	1	11
Discharged after observation	34	17	51
Discharged as cured	1	1	2
Re-admitted	—	4	4
Absconded	1	—	1
Number of patients certified	9	4	13
Remaining in Asylum 31st December, 1935	51	35	86

ANNUAL MEDICAL REPORT ON THE FREETOWN PRISON FOR THE YEAR 1935.

65. Dr. E. J. Wright, Senior Medical Officer (Sierra Leone) was in charge throughout the year.

Mr. M. B. King was Resident Dispenser from 1st January to 27th September when he was relieved by Mr. P. Q. A. John, who continued to the end of the year under review.

GENERAL HEALTH.

(*a*) Prison Officers.

66. *European.*—Good throughout the year.

African.—Good, as the diseases from which most of them suffered were not of any serious nature. 87 were treated, of which number 11 were placed on the sick list for 74 days and 3 were referred to the Connaught Hospital for institutional treatment, where 1 died from valvular disease of the heart. One was also invalided out of the service for chronic bronchitis after a protracted stay in the hospital.

(*b*) Prisoners.

67. The health of prisoners was satisfactory. There were 678 out-patient cases treated with 9,287 subsequent attendances as compared with 697 and 11,204, respectively during the previous year. The prevailing diseases were:—Avitaminosis, skin affections, bronchitis, helminthiasis, dyspepsia and minor injuries. This first named disease attracted much

attention as it was observed that at least, three-quarters of the new-comers to prison suffered from it in a greater or less degree. It was also of considerable interest to note how rapidly the affection, even in its worst forms yielded to treatment, after their admission, under a course of cod-liver oil and marmite, a few cases being given Radiostoleum in addition. The less severe cases were always cured by the prison diet alone.

68. Eighty-two cases were admitted into the Gaol Hospital. During the first quarter of the year, 6 cases of pneumonia were admitted and one died. Late in the month of September, a sporadic case of typhoid fever appeared in the gaol. A special report was called for by the Honourable the Director of Medical Services, for the information of His Excellency the Governor, a copy of which is appended. One prisoner with fracture of the radius of left hand, and three metacarpal phalanges of the right hand was referred to the Surgical Specialist. After X-ray examination and setting up, he was sent back to the Prison Hospital.

69. One case, a remand prisoner with multiple septic wounds was also referred to the Connaught Hospital. This terminated fatally owing to tetanus.

70. There were 4 deaths amongst the 82 cases admitted into the Prison Hospital and the following were the causes:—

(*a*) Lobar pneumonia.
(*b*) Tetanus resulting from multiple septic wounds died at the Connaught Hospital.
(*c*) Hæmoptysis consequent on pulmonary tuberculosis.
(*d*) Typhoid fever.

There were no epidemics throughout the year and only three isolated cases of chicken-pox were dealt with.

71. Four prisoners (3 males and 1 female) were sent to the Lunatic Asylum at Kissy under Emergency Certificates and two (1 male and 1 female) were returned after 38 and 20 days, respectively.

72. Two condemned prisoners were executed during the first quarter of the year. As mentioned in previous years' reports, apart from the Medical Officer's daily attendance, prisoners report at all hours with the various complaints mostly trivial; and on Wednesday afternoons, a medical inspection of all prisoners forms a regular routine and the administration of general prophylactic treatment is carried out.

73. The monthly weight record of prisoners ranged from 92 to 185 lb. There were 218 specimens of fæces of prisoners with three months' sentence and were sent to the Pathological Laboratory for examination with the following results:—

Ankylostoma ova	30
Ascaris ova	46
Trichuris ova	7
Tænia ova	5
Entamœba histolytica	2
Entamœba coli	4
Strongyloides larvæ	4
Giardia Cysts	1
Trichomenas	1
Oxyuris	1
Negative	117
Total	218

Only 7 minor operations were necessary:—

Extraction of carious teeth	4
Incision of abscess	3

74. The sanitary condition of the prison compound was satisfactorily maintained throughout the year.

Visits.

75. On the 20th January, 1935—The Right Honourable the Earl of Plymouth and his Private Secretary.
On the 25th April, 1935—The Visiting Justices.
On the 6th August, 1935—The Visiting Justices.
On the 24th October, 1935—The half-yearly visit of the full complement of the Visiting Justices.
On the 16th December, 1935—A Visiting Justice.

76. The usual statistical return is appended.

E. J. WRIGHT,
Senior Medical Officer (*Sierra Leone*).

STATISTICAL RETURN—1935.

Remaining in hospital at the end of December, 1934	5
Admitted during the year 1935	82
Remaining in hospital at the end of December, 1935 ...	4
Daily average number of prisoners in gaol	240·37
Daily average number in gaol hospital	3·59

Out-Patients.

———	Government Officials	Subsequent Attendances.	Prisoners.	Subsequent Attendances.
March quarter	18	20	137	1,974
June quarter	17	11	146	2,007
September quarter	19	26	120	2,096
December quarter	33	36	275	3,210
	87	93	678	9,287

In-Patients.

———	Admitted.	Cured	Improved.	Not Relieved.	Died.	Observation.
March quarter	21	11	7	1	2	—
June quarter	13	4	5	—	1	3
September quarter ...	19	5	10	1	—	3
December quarter ...	29	12	10	1	1	5
	82	32	32	3	4	11

Prisoners.

———	New Admissions Examined.	Remands and Trials.	Corporal Punishment.	Execution.	Solitary Confinement.
March quarter	210	49	—	2	58
June quarter	193	45	—	—	73
September quarter ...	195	26	—	—	46
December quarter ...	215	38	—	—	35
	813	158	—	2	212

———	1931.	1932.	1933.	1934.	1935.
Total number of prisoners admitted ..	913	749	895	788	963
Average daily strength	239	233	264	260	240
Total deaths excluding execution	4	7	5	2	4
Total number of prisoners on sick list ...	179	152	196	78	82
Daily average number on sick list	9·1	6·25	7·03	4·45	3·59
Daily sick rate per 1,000 average strength ...	38·07	26·82	26·51	17·10	12·34
Death-rate per 1,000 average strength ...	16·73	30·40	18·93	7·69	16·46

E. J. WRIGHT,

Senior Medical Officer (Sierra Leone) in charge, Freetown Prison.

Prisons Department,
Freetown.

77. Prisoner No. 174/29 Francies Coker (deceased) was undergoing a life sentence and had been in prison since 1929. He had never suffered, whilst in prison from any illness resembling typhoid fever.

78. He had been following the occupation of a baker in the prison for many years and was in fact the head baker and as such supervised the work but did not systematically handle the bread baked there.

79. On the 23rd September, 1935, in the afternoon he complained of fever and malaise—was found to have a temperature of 100° F. and was admitted immediately to the Gaol Hospital. No definite physical signs were found—no malarial parasites were seen in his blood but by the third day of illness his temperature had stepped up to 103° F. Much abdominal discomfort now suggested an abdominal focal point.

80. On the 28th September, 1935, a consultation was held with the Surgical Specialist, Mr. Stewart, and it was decided that there was no indication for any surgical intervention.

81. On the 30th September, 1935—eighth day of illness, in view of the nature of the temperature which was falling by lysis, and the fact that there was an abdominal focus, blood was taken for serological test and a Widal asked for. On this day although rather early for a definite diagnosis of typhoid the case was treated in every way as if it was one of typhoid.

82. On October 1st Professor Gordon reported that the patient's serum agglutinated B. Typhosus in the following dilutions.

1 : 20	1 : 40	1 : 80	1 : 160	1 : 300
++	++	+	trace	0

No agglutination throughout with B. paratyphosus " A " or " B." His interpretation of the test was :—

> This result may be indicative of a previous attack of enteric a long time ago or else of the present attack being an early stage of the disease.

He suggested a blood culture and a repetition of the Widal in a few days. The same day Professor Gordon visited the patient and took blood for culture which grew B. Coli. A second Widal was not done at a later date on account of the patient's sinking condition.

83. This day, October 1st, 1935, the Medical Officer, Prison, consulted the Honourable Director of Medical and Sanitary Services, who agreed that the case should be diagnosed as one of typhoid fever in view of the patient's previous history and clinical picture, coupled with the laboratory findings. The Assistant Director of Health Service notified the Medical Officer of Health who visited the Prison and investigated the matter. On October 1st the patient's temperature had reached normal but his general condition was bad—marked tympanites, feeble rapid pulse—in fact the fall in temperature was considered to be due to a failure of resistance and not to a subsidence of the disease. An official report of the man's condition was forwarded to the Superintendent of Prisons for the information of Government.

84. In spite of constant care and attention the patient gradually sank and died at 2.30 p.m. on October 4th.

85. The precautions taken by the Medical Officer, Prison, apart from the activities of the Medical Officer of Health, to prevent the spread of the disease were as follows :—

86. On September 30th the patient was treated as a case of typhoid; attendants warned as to the danger of infection and spread of the illness, all excreta were disinfected. The remaining bakers, five in number on this date but increased to six by a new recruit on October 2nd, had their temperature taken morning and evening to enable an early recognition of any illness among them—this is still being done.

87. Any prisoner found with a rise of temperature, no matter how trivial, was hospitalized for close observation—this is still being done. The dispenser, dresser and hospital orderlies, together with all the bakers, were vaccinated with T.A.B. vaccine. All patients in hospital or admitted to hospital whilst deceased was alive were also vaccinated with T.A.B. vaccine. The typhoid patient's location and all beddings, clothes, etc., were disinfected and after death the Medical Officer of Health took charge of his body until burial took place. A careful watch is still being kept on all the prisoners for any evidence of illness that might possibly be attributable to this infection. There has been no case of typhoid diagnosed in the Freetown Gaol, at least for the past twenty years, and this case can be looked upon as a sporadic case and it should be noted that the deceased prisoner had a partiality

for the vultures about the prison area, and it is said that he sitting on the ground would even allow them to perch on his feet and was in the habit of feeding them from his own eating utensil whenever he got the opportunity. It would appear that this utensil was an enamel bowl which he kept for himself and into which he turned his prison ration whenever he received it.

88. If the view that this was a sporadic case is upheld, it would appear that little further can be done to prevent a recurrence of typhoid cases amongst the prisoners other than the means already adopted to prevent its spread from the known case, and as there is no reason to assume that there is a carrier in the gaol it would not appear necessary to vaccinate the whole gaol population with T.A.B. vaccine.

E. J. WRIGHT,
Senior Medical Officer (Sierra Leone), in charge, Freetown Prison.

Prison Hospital,
Freetown.

IV—Hygiene and Sanitation.

A—GENERAL REVIEW OF WORK DONE AND PROGRESS MADE.

I—Preventive Measures.

(a) *Insect-borne Diseases.*

89. *Malaria.*—During the year the routine measures directed against insect-borne disease have been carried out; as in former years the recurrent measures mainly consisted of the cutting of weeds, the felling of high bush, oiling of pools and swampy low-lying areas, regular house to house inspection, etc. It was found possible in this year to continue the permanent canalisation of Sanders Brook, while money was also available for the construction of subsidiary concrete channels in streets draining towards the Brook; the whole of that area of the town has been much improved thereby.

90. The report of the Medical Officer (Health), Freetown, is given below to indicate the activities of the department in that city, and which may be taken as the routine measures adopted in all out-stations where Medical Officers are posted.

European Staff.

Medical Officer (Health).—The post of Medical Officer (Health) again remained vacant. Dr. W. Allan continued to act throughout the year.

Sanitary Superintendents.—Mr. A. E. Wilkinson returned from leave on 16th February. Mr. P. Osment went on leave on 12th December.

African Staff.

1	Second Grade Sanitary Inspector
1	Third Grade Sanitary Inspector
7	Fourth Grade Sanitary Inspectors
21	Fifth Grade Sanitary Inspectors
6	Sanitary Learners.
Total 36	

Of this number, 12 Inspectors were stationed permanently in the Protectorate, and 18 Inspectors in Freetown and district. The 6 Sanitary Learners were also in Freetown receiving training.

91. *Training of African Staff.*—Lectures were given during the year by Mr. A. E. Wilkinson. At the end of the periodical lectures, examinations were given and the standard of knowledge as revealed by the papers was very good.

Health Work in Freetown.

92. The routine work continues to be carried out satisfactorily, although the labour available is still at a minimum. Several times during the year difficulty was experienced in maintaining supervision owing to the fact that for a considerable part of the year only one European Superintendent was available, as one was drafted to the Protectorate to

perform duties there. As in the report of last year, there is again only one European in Freetown at present and, although sufficient to enable the Health Branch to carry on in normal times, in the event of any outbreak, full efficiency of the Health Branch would not be obtained. This would, of course, be accentuated were one officer to go sick.

93. In the early part of the year, the Health Branch was busy taking measures against a possible spread of yellow fever, following upon a European death from this disease at Hill Station in January; a full report of the measures taken is given later in this report.

Anti-Malarial Measures.

94. *Inspection of Compounds.*—This is probably the most important of the anti-malarial measures, and is carried out systematically throughout the year. The town is divided into fourteen sections, each section having an Inspector in charge of it. The Inspector is responsible for all matters relating to Hygiene occurring in his section, and, in addition to the inspection of forty compounds daily, he keeps a strict watch on all potential mosquito breeding places, including drains, ditches, trees, rockpools, marshy land, etc. Surprise visits are made to these sections by the Senior Inspectors and reports are scrutinised and checked. The Medical Officer (Health) and the European Sanitary Superintendent also pay occasional surprise visits to each section, and I have much pleasure in recording that during 1935 the Inspectors have improved in keenness and efficiency, and on very few occasions was any fault found with the manner in which the work was carried out.

95. During 1935, 110,478 compounds were inspected and 294 samples of mosquito larvæ were found, as compared with 130,182 compounds and 496 cases of larvæ in 1934. When larvæ are found in compounds, a summons automatically follows, and in 1935 there were 294 prosecutions, and fines imposed by the Police Magistrate reached a sum of £46 17*s.* 0*d.* The larvæ were classified as follows:—

Anopheline	nil	0·26 per cent. in compounds.
Culex	69	
Stegomyia	225	
	294	

96. *Oiling.*—9,932 pools and 397 gutters were oiled during the year. Although this work is carried out throughout the year, most oiling is done at the beginning and end of the rainy season when the rains are light, with periods of bright sunshine, so that conditions at these periods are specially favourable for the development of mosquitoes. During the heavy rains larvæ are washed away by the overflowing of streams and drains, and in the middle of the dry season there are few pools left, so that oiling is then at a minimum. The oil used at present is anti-malarial oil, which produces a very fine film and is very efficacious. 1,517 yards of new drainage was laid by the Public Works Department and old drains and gutters were repaired.

97. Larvæ found in pools and gutters:—

Anopheline	40	0·83 per cent. in pools and gutters.
Culex	7	
Stegomyia	39	
	86	

98. *Trees.*—47,727 trees were inspected and 89 samples of larvæ recovered from holes in trees:—

Anopheline	nil	0·18 per cent. in trees.
Stegomyia	70	
Culex	19	
Total	89	

2,060 holes were chipped and 2,910 cemented.

99. 318 trees were felled during the year as compared with 4,058 in 1934. Those felled were mostly cotton and mango trees, and it has been found that most samples of tree larvæ are recovered from these trees. Cotton trees are specially liable to develop holes and hollows, and most of the mango trees in and around Freetown are old, rotten and dangerous. Palm trees are another source of danger, for most palm trees around Freetown have been tapped, leaving holes in the trunk where water collects. It is of interest to note that last year about 200 gallons of water was taken by buckets from the large cotton tree near the Law Courts, and myriads of mosquito larvæ were discovered. Although so many trees have been felled, this work has not been done in any haphazard fashion, for where a fine specimen of tree can be saved, holes are filled up and the tree preserved. Moreover, due regard is paid to shade trees and fruit trees; these facts notwithstanding, however, there remains the fact

that the trees of Freetown form a definite breeding place for mosquitoes, and therefore must be regularly inspected and if necessary felled. It is hoped that during 1936 the problem will be tackled in a more scientific manner so that the types of mosquitoes breeding in particular types of trees, the height from the ground at which larvæ are found, and other relevant matters will be accurately determined.

100. *Inspection of Boats and Canoes.*—7,836 boats and canoes were inspected and 3 samples of larvæ found:—

Anopheline	nil	0·03 per cent. in boats and canoes.
Stegomyia	3	
Culex	nil	
	3	

101. *Cesspits.*—It is necessary to inspect all cesspits regularly as an anti-malarial measure, as they often become filled with water draining into them from the sorrounding ground, and therefore must be regarded as another potential breeding ground for the mosquito. Watery cesspits are dealt with by spraying oil on the surface of the water. 1,805 cesspits were dealt with in this manner during the year.

102. *Canalisation.*—This work, as in previous years, was carried out during December; the work consists of cutting a small channel in the beds of the four main streams running through Freetown, and banking the channel with bricks so that during the dry season, when the flow is small, the stream runs freely and no marshy ground or rock pools are left along the banks of the stream. Sanders Brook, of course, has been permanently canalised, and it is hoped that the others will be tackled likewise as soon as funds permit, for the work has been of immense value in reducing the numbers of mosquitoes in this area.

103. *Tins and Bottles.*—A special gang is engaged every rainy season whose sole task is to collect tins, bottles, and all other receptacles capable of holding water. In the course of time there should be no necessity for this gang as it is hoped that the people will eventually realise that it is a stupid practice to leave old tins and bottles lying about.

104. *Bushing and Weeding.*—Special weeding gangs are employed at intervals during the year and their work in keeping grass and bush cut short is beneficial in so much that a possible resting-place for adult mosquitoes during the day is destroyed, and debris, including tins and bottles, is exposed and can be dealt with.

Mosquito Larvæ Index.

	1933.	1934.	1935.
First Quarter	1·14 per cent.	0·29 per cent.	1·14 per cent.
Second „	0·86 „	2·00 „	1·43 „
Third „	2·29 „	2·68 „	—
Fourth „	1·43 „	0·86 „	0·29 „

105. The weekly index commenced in 1934 is still taken, and continues to be very satisfactory. There is no doubt that conditions in Freetown as regards mosquito breeding are gradually improving, and with a steady pursuance of the above routine methods aided by the yearly programme of drainage carried out by the Public Works Department, still greater improvement may be expected. Slowly but surely the inhabitants are being roused to a greater sense of responsibility, and eventually Freetown should become a town where malaria, although it will always exist, will be kept well under control.

106. It is of special interest to note that in 1934 28,901 trees were inspected, 781 samples of mosquito larvæ were found, and over 4,000 trees felled, while last year 47,727 trees were inspected and only 89 samples of larvæ discovered. While admitting that figures are often misleading, it seems quite certain that the felling of these old trees was a definite necessity as has been proved by the enormous reduction in the number of samples found.

Infectious Diseases.

107. *Smallpox.*—Sixty-one cases occurred in Freetown during 1935, 21 of which were imported. During the period 14th June to 6th July a smallpox outbreak occurred in the East Ward of the City, when 22 cases were discovered. A thorough house to house inspection was immediately started, and everyone living in the area who did not have good vaccination marks, was vaccinated. The outbreak was traced to an imported case from the Protectorate which was not discovered for some days after the rash had begun.

Fortunately, the spread was quickly checked, and after the 6th day of July, 1935, no more cases occurred in that district. In all cases of smallpox the case is immediately sent to the Infectious Diseases Hospital, Kissy, and all contacts with good vaccination marks are kept under surveillance; the house is fumigated and all contacts not previously vaccinated are sent to the Cape Quarantine Station.

108. *Chicken-pox.*—During the year there were 44 cases of chicken-pox as against 66 in 1934. The patients were isolated and all precautions taken to prevent any widespread outbreak.

109. *Typhoid Fever.*—This disease has shown a small yearly increase since 1933. In 1935 there were 15 cases; none of which showed any relation to the others. The possibility of an outbreak of typhoid fever must always be borne in mind, as Freetown, with its 5,000 cesspits and primitive system of disposal of night-soil, must always be regarded as suitable for an epidemic of this disease. However, each case is thoroughly investigated and all possible precautions are taken; and Europeans are advised to safeguard themselves by preventive inoculation.

110. *Pulmonary Tuberculosis.*—There were 173 cases and 16 deaths during 1935, as compared with 258 cases and 49 deaths in 1934. In each case the house is visited and the inmates instructed as to the steps to be taken to prevent the spread of the disease.

111. *Plague.*—Although there has been no case of this disease in Freetown for very many years, it is recognised that the danger is always present, and steps are taken to prevent the introduction of this terrible disease. Previous to 1935 routine trapping was carried out and rats were examined weekly by the Bacteriologist, but it was felt that more intensive efforts were necessary, especially as the number of rats in town appeared to be on the increase.

With the assistance of Professor Gordon and Dr. Davey of the Sir Alfred Jones Laboratory who introduced a simple but thorough method of examining rats for signs of plague, more trappers were employed, and during the year 4,379 rats were caught. Much useful information has been obtained as to the types of rats prevailing. During 1936 it is hoped that the number of rats caught will be at least doubled or trebled, and a real onslaught made on the rat population.

112. *Measles.*—Towards the end of the year, a widespread epidemic arose among the school children of Freetown and Kissy, and several schools had to be closed for a short period. Fortunately the disease was of a mild type, and the epidemic is now almost at an end.

113. *Yellow Fever.*—In the early part of the year a European residing at Hill Station contracted this disease and died. Active measures were immediately undertaken by this department to prevent any possible spread; houses at Hill Station were fumigated, intensive searches were made for breeding places of mosquitoes, all house boys were thoroughly examined and their movements checked, and no further case arose in this area. However, several cases, suspicious of yellow fever, arose in Freetown shortly afterwards and intensive measures were instituted; working outwards from the house where the patient resided, all neighbouring houses were fumigated, contacts were isolated, and the whole area combed for signs of breeding places. The cases themselves were immediately removed to the Infectious Diseases Hospital and placed under mosquito screens.

As regards shipping no one was allowed to embark without a Health permit, and all precautions were taken to prevent the spread of the disease to ships.

As a history of this outbreak is contained elsewhere in the report, sufficient has been said here to show that the Health Branch worked at full pressure to keep this dread disease under control, with highly satisfactory results.

Refuse Collection and Disposal.

114. 9,378 loads of refuse were collected in Freetown in 1935, representing, approximately, 12,000 tons. This refuse is collected from public dust-bins of which there are 74 placed throughout the town, and from Firms, schools, etc. It is conveyed by lorry to Clinetown, loaded into trucks and conveyed by rail to Allen Town, where it is tipped on the side of a valley. As spontaneous combustion is always occurring at the tip the rubbish is burned and no nuisance arises. Tipping of refuse in Freetown is avoided as much as possible as fly breeding occurs unless carefully controlled. One new Bedford two-ton lorry was added to the Fleet as a replacement, and has proved suitable for the work.

115. In 1936, it is hoped to commence a scheme of house to house collection of refuse in the central portion of the town, and the co-operation of the people in making this a success is confidently expected. The present dust-bins, although doubtless necessary in previous years, are fast outliving their usefulness, and it is no pleasant sight to see these rubbish dumps scattered about the town, on most of the main streets, and many of them opposite good modern houses where the stench from the dust-bin must be almost unbearable to the inmates. The matter is being tackled, and if the citizens co-operate by providing their own receptacles, it is felt that in the near future the dust-bins may be demolished, and an eye-sore thus removed.

Sewage Disposal.

116. 4,317 notices were served in 1935 for the cleaning of cesspits. There are, approximately, 5,000 cesspits in Freetown, and very few are satisfactory. The majority are in back yards, quite close to the house, and are seldom cleaned until a notice is served. Most Firms and Government houses and offices are supplied with pails; the pails, together with those from the 15 public latrines, are emptied along the foreshore below the high water level, so that gross pollution of the foreshore is taking place daily. The obvious remedy is a water carriage system with the main effluent pipe leading into mid-streams; perhaps this may eventually be considered with the corresponding problem of addition storage of water to meet the needs of the dry season.

Inspection of Markets and Slaughterhouses.

117. All markets are inspected daily by the Health staff, and surprise visits are made from time to time by the Medical Officer (Health) and the Sanitary Superintendent. These constant inspections are very necessary if the markets are to remain even reasonably clean; unsatisfactory as some of the markets are, they at least provide a cover for foodstuffs and protection against the dust and dirt of the open streets; furthermore, the rubbish and refuse which always attends marketing is localised and can be gathered into receptacles. For these reasons it is a pity to see so many markets only half filled while street trading is allowed to increase at an alarming rate.

118. While on this subject, it should be mentioned that the present system of allowing each market to be used for the sale of such diverse articles as fish, meat, vegetables, pots, pans, candles, etc., is unsatisfactory; it is considered that it would be a step forward if the City Council would classify its markets as fish, meat, vegetables, sundries, etc., so that one class of goods would be sold in each market. Not only would meat and fish then have a chance of being kept fresh and clean, but the markets could also be altered to suit the special requirements of each variety, such as special meat stalls and hooks, special tables and water supply for fish markets, etc. The slaughterhouse, which compares favourably with that of many towns in England, continues to be kept in excellent condition. A Sanitary Inspector is always present at each killing to superintend the method of killing, and the cleanliness of the butchers; he examines the animal carefully before and after slaughter, and if in doubt, he detains the carcase until it has been inspected by the Medical Officer (Health).

119. The scheme which was put forward in 1933, whereby each owner receives compensation when a carcase is condemned and destroyed, continues to work well, and no longer do the owners of cattle complain when their cattle are seized for destruction.

120. During 1935 the following were slaughtered:—

Bullocks	4,274
Sheep	395
Goats	569
Pigs	136

121. Carcases and livers condemned and destroyed were as follows:—

Anthrax	2 bullocks
Cysticercus Bovis	6 „
Angioma	468 lb. liver
Abscess	284 „
Liver Fluke	668 „
Died	1 bullock

Foodstuffs.

122. The following foodstuffs, exposed for sale, were seized from various Firms and destroyed:—

1 Barrel smoked herrings.
2 Tierces pigs feet.
¼ Tierce pigs feet.
6 Cases of 96 tins each, Libby's milk.
1 Tin boiled boneless ham.
1 Basket foofoo.
21 Cases of 96 tins each, Libby's milk.
3 Cases tomatoes.
1 Small box onions about 24 lb. in weight.
28 Tins of sardines (Pabilhas)
10 Tins chocolates.
5 Tins cocoa.
2 Tins pudding.
1 Tin salmon.
1 Tin sardines.
28 lb. biscuits.
2 Bottles without label.

1 Tin without label.
22 lb. rice.
4 Tins milk.
2 Tins chocolates.
1 Tin tinappa.
4 Tins without label.
2 Tins rasberries
1 Tin without label.
95 Tins milk.
1 Tin Grunpere cheese.
49 Bottles without label.
57 Tins sardines.
42 lb. biscuits.
1 Tin parsnip.
1 Tin turnip.
1 Tin cabbages.
1 Bag crushing wheat.
48 lb. potatoes.
22 Tins fruit salad.
8 Quarts beer.
1 Pint mineral water.
8 Tins cigarettes.
15 lb. bacon.
6 Bottles without label.
10 Tins tomatoes.

Most of these are exposed for sale just before Christmas, usually at reduced prices, and it is at these periods that the Health Branch keeps a special look-out for goods that are unfit for human consumption. Some of the more reputable firms invite the assistance of the Health Branch in examining questionable articles but some firms take the opportunity at the festive season of foisting old stock on to the public at absurdly low prices.

123. *Bakeries, Tanneries and other Trades.*—These were inspected regularly, and no nuisance was reported.

Port Health Work.

124. Freetown was in quarantine from 23rd March to 29th March on account of the occurrence of yellow fever in town. During this period no one was allowed to embark without a medical certificate of fitness, and there was as little communication as possible between the ship and the shore.

125. Cases of yellow fever and plague were reported periodically from various towns on the Coast, and steps were taken to prevent the introduction of infectious disease into Freetown.

126. Vaccinations were performed as follows:—

Deck passengers	659
Kroo boys	2,562

127. The following were passed through the Disinfecting Station:—

Deck passengers	819
Kroo boys	3,751

809 ships entered the port during 1935, an increase of 75 from 1934. The gross tonnage amounted to 2,465,441.

128. The following deck passengers and Kroo boys embarked and disembarked:—

Embarking:

Deck passengers	937
Kroo boys	16,235

Disembarking:

Deck passengers	1,531
Kroo boys	17,278

129. All Kroo boys and deck passengers are inspected and, if necessary, vaccinated previous to embarkation, and arrivals from other ports are inspected before being allowed to land at Freetown.

School Inspection.

130. The examination of school children was in abeyance in 1935. As regards latrine accommodation in Freetown schools, a move is being made at last to effect some improvement, and Government Model School has made a real effort to set an example. Unfortunately other schools are not following suit, and the general latrine conditions are primitive. It is almost impossible to instil hygienic principles into school children while latrine accommodation in the schools is inadequate.

Health Week.

131. The annual Health and Baby Week was completely disorganised owing to the occurrence of cases of yellow fever, and most of the events of the week were abandoned. The Baby Show, however, was a great success, and the numbers of mothers taking an interest is increasing yearly.

Rabies.

132. Two post-mortem on dogs suspected of rabies were performed and the diagnosis confirmed by the presence of Negri bodies in the brain cells. During the year 1,363 dogs found in town without muzzles were caught and destroyed.

Hill Station Sanitation.

133. Larvæ found at Hill Station in 1935 were as follows:—

Stegomyia	28
Culex	5
Culex and Stegomyia	4
Anopheles	—
Total	37

134. One hundred and twenty-three trees were felled during the year. The wholesale felling and weeding out of old trees in 1933 has resulted in a great decrease of mosquitoes in this area; to make good the appearance of Hill Station, a committee was formed, and it was decided to commence a programme of debushing, regrassing, and tree planting, the Health Department supplying the necessary capital. New trees will be carefully watched for signs of holes and hollows holding water, and provided a sum of money is set aside annually for maintenance, a great improvement should result at Hill Station.

135. It is to be recorded that Government, probably as a result of previous reports, have now recognised the fact that the grubbing up of bush roots and its replacement by grass will eventually lead to a reduced expenditure and an improved appearance of the European residential area.

City Council.

136. For a long time now it has been felt that the City Council of Freetown has not participated in looking after the various Public Health Services to the same extent as in other towns throughout the Empire; to allow the City Council to acquire a greater controlling interest it was decided that the Health Branch staff and the City Council staff should work in close collaboration for a period of one year, at the end of which time the Council would be in a position to take over the responsibility of health matters in Freetown, with the Medical Officer (Health) acting as adviser to the President and Council on matters of hygiene. Difficulty was experienced in obtaining suitable accommodation, but eventually the old Railway Office in Water Street was obtained, and the City Council and Health staffs moved there on the 1st November. A Health Committee of the City Council has been formed with the Medical Officer (Health) as Chairman, and it is hoped that by means of frequent meetings and discussions on health affairs the Councillors and Town Clerk will acquire sufficient knowledge to enable them at the end of a year to take over the Health staff.

W. ALLAN,
Acting Medical Officer (Health).

137. As in former years, the Medical staff comprising 16 Medical Officers, 40 Dispensers and 36 Sanitary Inspectors, carried out routine sanitary duties in the remainder of the Colony and in the Protectorate.

138. It was found possible to post the Chief Sanitary Superintendent for whole-time duty in the Protectorate, during which period he inspected many towns and actively supervised the sanitary reorganisation and building of three new towns previously destroyed by fire.

139. Twenty-nine towns were supplied with sanitary labour paid from the Protectorate Mining Benefits Trust Fund, which also provided sufficient money to enable sanitary structures to be built in several towns; this work is now permanent and progressive.

140. *Trypanosomiasis.*—As in 1934, only four cases were reported, none of which were fatal.

141. *Yellow Fever.*—The continuation of this disease in other countries along the West African littoral, and more especially the renewed outbreak in Bathurst, Gambia, in December, 1934, called for unremitting attention on the part of the sanitary staff in Freetown, yet, notwithstanding such efforts, a fatal case occurred in January. The case occurred in a European living in the European residential area (Hill Station) of Freetown, but his work brought him daily into town. Though every effort was made to trace the source of infection, the causation of this case still remains a mystery.

142. Subsequently in February, March and April a number of cases occurred in which the history and symptoms were consistent with those of yellow fever. These cases are dealt with in a separate report appearing herein as Appendix G.

(*b*) *Epidemic Diseases.**

143. *Plague.*—No case occurred during the year. Rat catching on an increased scale was carried on during the greater part of the year in collaboration with the Sir Alfred Lewis Jones Research Laboratory which is conducting a rat and rat-flea survey of Freetown; 4,379 rats were caught; in no case was infection detected.

144. *Smallpox and Vaccination.*—The outbreak which commenced in 1932, and which had continued in subsequent years, showed signs of diminishing greatly both in its extent and severity in 1935.

145. The intensive measures necessitated by the threat of yellow fever in Freetown rendered imperative the greater concentration of sanitary inspectors in that city, and thus resulted in a diminution of the vaccination figures.

146. The undetected entry of an infectious case from the Protectorate gave rise to a smart though localised outbreak in Freetown in June when twenty-two cases occurred. The usual preventive measures were taken and the outbreak was quickly circumscribed and stamped out.

147. A table is subjoined showing the number of cases, deaths, and vaccinations for 1935.

AREA.	Number of Cases Discovered.	Number of Deaths.	Number of Vaccinations.
COLONY DISTRICTS:			
Freetown	61	8	13,498
Headquarters Judicial	146	23	2,113
Sherbro	7	—	2,436
	214	31	18 047
PROTECTORATE DISTRICTS:			
Northern Province:			
Port Loko	353	57	1,552
Kambia	3	—	1,026
Karene	17	—	294
Bombali	133	3	3,412
Koinadugu	42	—	1,244
	548	60	7528
Southern Province:			
Kailahun	30	4	335
Kono	22	6	1,364
Kenema	2	1	2,049
Bo	328	93	2,841
Moyamba	243	34	8,369
Pujehun	212 637	30 116	3,776 18734
TOTAL	1,599	259	44,309

Of the 61 cases shown above against Freetown, 21 were imported.

148. *Dysentery.*—480 cases, including 8 deaths, were treated in 1935, as compared with 423 cases. including 81 deaths, in 1934. These figures cannot be accepted other than as an indication of the widespread prevalence of this disease; improvement can be effected only by the gradual improvement in night-soil disposal combined with a greater appreciation of sanitary ideals on the part of the indigenous population.

149. Improvements in Protectorate village sanitation are now being made progressively from year to year.

150. *Typhoid Fever.*—During the year there were 19 cases including 5 deaths. Four non-fatal European cases are included in these figures, and of these European cases two occurred in Freetown while two were reported from Bo in the Protectorate.

* The disparity of the Medical and Health figures for the following diseases is explained partly by laxity of notification from out-stations, notification by private practitioners to the Health Office only, and partly by registration of causes of death (not medically certified) by lay informants.

151. Of the African cases the majority occurred in Freetown and were treated by open ward isolation in the Connaught Hospital. Though diligent investigation was made it was found impossible to detect any case relationship, and the causation of these sporadic cases of typhoid is as difficult as ever to explain.

152. All preventive measures were taken both in the dwellings where the cases were detected and also in the hospital wards during the treatment of the individual cases and subsequent to their discharge. There was no case of ward infection.

153. *Cerebro-spinal Meningitis.*—No indigenous case occurred, but a European sailor admitted to the European Hospital on a provisional diagnosis of cerebral malaria later developed the typical signs and symptoms of cerebro-spinal meningitis, which was subsequently confirmed by laboratory tests. During the treatment of the case the hospital was placed in isolation, as was also the Nursing staff subsequent to the discharge of the case.

154. *Tuberculosis.*—Only 173 cases, of which 16 were fatal, were recorded in 1935 compared with 258 cases and 26 deaths in 1934. As in former years the cases were mainly respiratory in type. These figures are merely relative and, in the absence of accurate vital statistics, cannot be taken as a true indication of the prevalence of this disease.

155. *Rabies.*—In the absence of further cases of canine rabies it was deemed expedient to revoke the restrictions which had been imposed in 1934. The occurrence of two further cases of infection in dogs of necessity caused the reimposition of the restrictive measures which continued in force until the close of the year. An adequate supply of anti-rabic serum is constantly maintained, and all suspected contacts were suitably treated. No case of infection in human beings occurred.

156. During the year 1,363 dogs discovered in conditions not complying with the regulations, were caught and destroyed.

(*c*) *Helminthic Diseases.*

157. Helminthic disease is widespread over the whole country of Sierra Leone, and here again it would be optimistic to expect any material reduction in the incidence of these diseases until the dictates of health, both public and private, are better appreciated and practised by the people. The subjoined table shows conditions in 1935 to approximate closely to those of 1934:—

Disease.	1934.	1935.
Ascariasis	5,546	5,394
Ankylostomiasis	209	172
Schistosomiasis	89	65
Tæniasis	262	353

During the year ankylostomiasis and schistosomiasis accounted for 1 fatal case each.

2—General Measures of Sanitation.

158. *Night-soil Disposal.*—In Freetown this remains as in former years and no great advance is possible without the expenditure of a good deal of capital. Over 5,000 cesspits serve the needs of the general African population in Freetown; the more important African families have private pan latrines as have most Syrians and all European official and non-official bungalows. In addition 14 public latrines, containing 293 pans, supply the daily needs of the floating population; these pans are treated with disinfectant daily.

159. The contents of pans are emptied into the sea, and though this practice is opened to objection and is far from ideal no great nuisance is occasioned thereby.

160. The bungalows of European residents of Hill Station (Freetown) are equipped with pails. These are serviced daily, the contents being emptied into fly-trapped Otway disposal pits.

161. In the Protectorate the pit latrine, public and private, is universal. Progress has been made in providing villages with the improved squatting plate type of pit latrine with benefit to the people. It is hoped to extend the use of these latrines throughout the Protectorate.

162. *Refuse Disposal.*—The scheme of disposal for Freetown commenced in 1931 continues to work satisfactorily.

163. In the Protectorate increasing use is being made of the bush type temporary incinerator with the necessary drying shed. These are quite efficient for small communities. Under a progressive scheme of improvements of village sanitation it is hoped ultimately to equip all the main towns and villages with these structures. Money for this is to be provided in the Mining Benefits Trust Fund, as also are the funds necessary to pay the labour attending to these and other sanitary structures.

164. *Drainage and other Sanitary Improvements.*—The following extracts are taken from the current reports of the Public Works Department and Waterworks Engineer:—

165. *Minor Health Improvements—Port of Sherbro.*—Provision in Estimates, £50.

The following works were undertaken in 1935:—

(*a*) New latrine at Mission Road.
(*b*) New catchment area to tank at Pie Mary Street.
(*c*) New catchment area to tank at York Island.
(*d*) Repairs to dust-bins, Bonthe and York Island.
(*e*) Repairs to latrines, Bonthe and York Island.
(*f*) New drain at Mission Road X Victoria Road.
(*g*) Miscellaneous repairs to drains, etc.

166. *Maintenance and Repair of Sanitary Structures.*—Provision in Estimates, £80.

All dust-bins, latrines, and urinals were kept in satisfactory repair throughout the year, the majority being whitewashed and the steelwork coated with Tarkecem.

167. *Maintenance, Repairs and Improvement of Drains and Minor Health Improvemnts—Freetown.*—Provision in Estimates, £300.

This vote was much reduced for 1935 and the installation of a new concrete drainage was confined to Little East Street where 160 lineal yards of 14 inches channels were laid. General repairs were effected to many of the existing drains.

168. *Maintenance of Hill Station Water Supply.*—Provision in Estimates, £180.

The original provision was found to be inadequate and additional Special Warrants totalling £54 were granted. In addition a sum of £96 was voted to enable repairs to be effected to the concrete reservoir.

169. This water supply caused the greatest anxiety throughout the whole of the dry season. The stream supplying the reservoirs gave evidence of failing at an unprecedented early date and immediately prior to advent of the rains the supply had for practical purposes entirely ceased—a state of affairs for which there is no previous record. Added to the difficulty caused by the failure of the stream was the fact that the concrete reservoir—an old and generally unsatisfactory structure—lost water due to leakage to an extent which rendered it of little assistance.

170. A restricted supply commenced on January 17th but the restrictions were discontinued after a few days as the lessened consumption brought the storage up to normal again.

171. On February 19th a general appeal was made to all consumers on this supply to restrict their use of water and this was followed on the 30th of March with an order cutting off the supplies of water to all quarters except during the hours of 6.30 a.m. and 7.30 a.m.

172. On April 3rd the emergency measure was adopted to removing all outside taps from all quarters so ensuring that the drawing of water should be under the personal supervision of the European occupants.

173. On April 25th the hours of supply were still further restricted to from 6.30 a.m. to 7.10 a.m. The reservoir commenced to make up again as from approximately May 20th.

174. In view of the failure of the concrete reservoir the question of its repair was looked into and it was finally decided to break down the centre wall, make good the floor, scrape all bitumen coating to floors and walls, rake and make good the cracks and then paint with two coats of "Synthaprufe" solution as an attempt to effect an economical repair. This work was executed after the rains and on testing the reservoir was found to be watertight and serviceable.

Colonial Development Fund.

175. *Canalisation of Streams and Completion of Street Drainage, Freetown.*—Provision in Estimates, £4,908.

The year under review saw the completion of the Sanders Brook canal. The previous year's work had terminated at a point near the Plant and Tool Store in the Public Works Department compound. During 1935 the canal was extended approximately 830 feet to a point near the stone factory where it divided into two smaller channels, one

channel turning south for a distance of, approximately, 113 feet where it terminated at a small bridge near the crushery, the other channel proceeding east for a distance of, approximately, 616 feet and terminated at a catchment basin at the foot of the hill where the stream enters the valley.

176. The canal was constructed of English pressed brown engineering brick laid on a concrete foundation, the main canal being 2 feet 1½ inches high and 6 feet 0 inch wide, with a dry season channel 9 inches by 9 inches. The two smaller branches were each 2 feet 1½ inches high by 3 feet 9 inches wide, also provided with a similar dry season channel 9 inches by 9 inches. The average gradient along these sections of the canal was, approximately, 1 in 60.

177. A reinforced concrete bridge was constructed across the canal to give access to the laterite quarry.

178. The work was well laid out and presents a neat finish which has called for favourable comment.

179. *Street Drainage.*—The following streets in the Sanders Brook area were drained with concrete channels, made up and coated with British Standard Specification Road Tar No. 2:—

Wesley Street	Length approximate		205	yards
Bathurst Street (upper section) ...	„	„	290	„
Waterloo Street (upper section) ...	„	„	300	„

180. The following concrete drains were also laid:—

Along Westmoreland Street from Waterloo Street to Samba Gutter:
1 line 18 inches concrete channels, approximate 70 yards long

John Street	„	„	„	385	„	of	14	inches channels
Point Street	„	„	„	39	„	„	14	„ „
Henry Street (West)	„	„	„	68	„	„	14	„ „

Freetown Water Supplies.

181. The position in respect of Freetown is detailed below in the Waterworks Engineer's Report:—

The works were maintained in the usual high state of efficiency and daily inspection of public and private services carried on, and all leakages discovered, promptly attended to. In this connection we are indebted to private consumers who either by letters, telephone or verbal messages inform us of leakages of their services, as also to the Commissioner of Police for prompt report to this department of all leakages of public standposts and water pipes observed by the members of the Police Force.

182. *Public Standposts.*—One new public standpost was erected during the year at Allen Street, Central Ward. The total number of public standposts is 241.

183. *Private Services.*—Twenty-four new private services were laid bringing the number up to 517.

184. *Distributing Mains and Hydrants.*—207 yards of 4-inch distributing mains were laid along Goderich Street in the Central Ward, 339 yards of 3-inch mains along Guard Street and Magazine Cut in the East Ward, and 368 yards of 4-inch mains along Edward Street in the West Ward. In connection with these, 7 new fire hydrants with concrete indication posts were fixed. The total number of fire hydrants is 406.

185. *Shortage of Water.*—There was a rather acute shortage of water this year lasting from the 15th of March to the 30th of May, during which time the City was placed on a restricted supply.

186. *Pumping.*—Pumping operations were carried on from the 8th of March to the 15th of June.

187. *Consumption.*—The total consumption of water for all purposes for the year amounted to 176,692,000 gallons, that is an average of 484,000 gallons per diem. The consumption for purely domestic purposes for the year was 168,911,000 gallons, a daily average of 462,800 gallons, and for non-domestic purposes, 7,781,000 gallons for the year, a daily average of 21,000 gallons.

188. *Experimental Wells.*—The Council has been investigating the possibilities of supplementing the supply in the dry season by means of underground supplies. To this end three experimental wells were sunk in the Brookfield area but with no satisfactory results. Another well is being sunk in the lower valley of the Wellington Brook, underground water has been tapped at a depth of 35 feet, but operations are not yet completed and the yield is as yet not ascertained.

189. *Staff.*—Mr. J. B. Short, Engineering Apprentice, returned from England in May last after a course of nine months practical training at the Ipswich Waterworks and has been appointed Assistant Waterworks Engineer. Mr. A. B. Cole proceeded in April, and hopes to return in April next.

W. S. COLE,
Waterworks Engineer.

190. Water supplies in the Protectorate are, in the majority of cases, still obtained from streams running in the neighbourhood of villages, in the absence of these reliance is placed in wells which are mainly of the shallow type and are usually devoid of a protecting cover or sanitary method of raising the water.

191. During the year approval was given for an improvement in the pipe-borne supply at Moyamba. Elsewhere in the Protectorate improvement is being effected in the sites at which water is obtained from streams, wells are being fitted with proper coping surrounds and covers, while an attempt is being made to introduce more sanitary though elementary methods of raising water.

School Hygiene.

192. With the reduced Medical staff available it was found impossible to carry out routine medical inspection of school children.

193. The elementary principles of health continue to be taught in the Colony schools; it is therefore somewhat anomalous that the sanitary conditions of the majority of schools in Freetown are, approximately, in the same poor state as they were in 1931. A more energetic attitude recently adopted gives hope for early improvements.

Labour Conditions.

194. The continued extension of mining activities still attracts more and more labour to these enterprises, especially at those times of the year when the more onerous part of farming has been completed.

195. During the year the majority of the larger mining camps were inspected by Sanitary Officers, and in not a few cases their recommendations for improved housing, sanitation, water supplies, etc., have been put into effect.

196. The increased price offered for agricultural products continued in 1935 and has enabled the agricultural worker and his dependants to adopt a better standard of living in respect of staple diet and those additions thereto which, if not absolutely essential, do nevertheless tend to greater happiness and an increased sense of well-being.

Housing and Town Planning.

197. In so far as Freetown is concerned, the conditions are similar to those reported in 1934, i.e. the Health Branch of the Medical Department does not enter into the building activities in Freetown which are carried out under the Freetown Improvement Ordinance in which no provision is made for control by the Medical Department.

198. In the Protectorate a more sensible arrangement exists in those areas which have been declared Health Areas under the Public Health (Protectorate) Ordinance, or Labour Health Areas under the Labour Ordinance, 1934. In all these cases, buildings and lay-outs are subject to approval of the Medical Department, and steady progress is being made.

199. During 1935 three large towns destroyed by fire were completely rebuilt under the supervision of the Chief Sanitary Superintendent, according to plans drawn up by the Health Branch.

200. Elsewhere all new buildings are subject to approval by the district Medical Officer acting in his capacity of Medical Officer (Health). Though this principle is slow in effecting any markedly noticeable improvement, it must, if steadily followed, inevitably lead to a gradual and permanent improvement in Protectorate towns.

Food in relation to Health and Disease.

201. All cattle, etc., intended for human consumption in Freetown are examined before and after slaughter at the public abattoir, which is the only place at which slaughter is permitted.

202. The use of the Cash Captive bolt humane killer continued and was efficient, but sympathetic consideration was given to representations made by sections of the public whose religious tenets were offended by the use of this instrument. It was hoped to introduce an electrical stunning device which would satisfy all sections of the community.

203. The following figures show the number of animals, etc., inspected and slaughtered in 1935 and also give the quantity of flesh condemned as unfit for consumption:—

The following were slaughtered:—

Bullocks	4,274
Sheep	395
Goats	569
Pigs	136

Carcases and livers condemned and destroyed:—

Anthrax	2 bullocks
Cysticercus bovis	6 ,,
Angioma	468 lb. liver
Abscess	284 ,,
Liver fluke	668 ,,
Died	1 bullock

204. In addition to the sanitary control of the meat industry, all markets are inspected daily, while periodic inspections are made of all stores selling canned products; bakeries, mineral water factories, tanneries were also regularly inspected.

B.—Measures taken to spread the Knowledge of Hygiene and Sanitation.

205. Instruction in the elementary principles of personal and public hygiene continues in the schools, while the practical effect of these principles is demonstrated by the Sanitary Inspectors, Health Visitors and Midwives in the daily execution of their duties.

206. During Health Week propaganda is intensified by means of posters, pamphlets, handbills, lectures and health talks over the radio. The Baby Show was again a great success and was attended by a greater number of entrants than in any previous year.

C.—Training of Sanitary Personnel.

207. In the absence of any new recruits only refresher courses were given to the existing Sanitary Inspectors all of whom had already passed their examination. The practice of bringing into headquarters those Sanitary Inspectors who had been long in out-stations continued during the year with a consequent improvement in the general efficiency.

V—Port Health Work.

208. The general improvement in world economic conditions, and, in particular, the better price offered for the agricultural products of Sierra Leone was reflected in the increased shipping activity of the Port of Freetown, 809 ships entering the port compared with 734 in 1934.

209. During that period when yellow fever was prevalent along the whole of the West African littoral, the occurrence of cases suspicious of yellow fever led to the port being declared an infected one on March 23rd; this ban was lifted on March 29th when it was considered that no danger of infection to ships existed.

210. The Port Health facilities include a Sanitary Station comprising baths, waiting room, inspection room and a Washington Lyon steam disinfector.

211. The following figures given in tabular form show the number of Kroo labour, deck passengers handled by the above organisation:—

Embarking:	
Deck passengers	937
Kroo boys	16,235
Disembarking:	
Deck passengers	1,531
Kroo boys	17,278

J. A. A. DUNCAN,
Assistant Director of Medical Services (Health).

VI—Maternity and Child Welfare.

212. Maternity and Child Welfare work has once more progressed very favourably in spite of the fact that there has been no increase in accommodation. All the clinics show a gratifying increase in attendances and the Infant Welfare Centre has increased again by over 50 per cent. There is an increase of 38 per cent. in the ante-natal and 49 per cent. in the post-natal clinics. Details of the maternity, ante-natal, post-natal clinics and Infant Welfare will be found in Appendices B, C and D. There is a further drop in the infant mortality which has shown a progressive reduction during the last five years. The maternal mortality rate also shows a gratifying reduction. Whereas in 1934 the maternal mortality rate was 15·6 per 1,000 live-births and 14·2 per 1,000 total births, 1935 shows 11·78 per 1,000 live-births and 10·78 per 1,000 total births—a reduction of 3·82 and 3·42, respectively.

213. The maternity and child welfare work of the Princess Christian Mission Hospital has again shewn satisfactory progress.

VII—Hospitals and Dispensaries.

214. (*a*) *Connaught Hospital.*—The work at the Connaught Hospital has once more maintained a very high standard, and increases are shown both in the number of in-patients and out-patients treated at this institution during the year under review. The surgical side of the hospital has again been very well maintained. It has not been possible to increase the accommodation for maternity and the Maternity Ward has been taxed to its very utmost. In 1935, 554 cases were admitted with 379 births, showing an increase of 53 and 48, respectively, over the figures for the previous year. It is hoped that in the very near future further accommodation will be available. It has been possible to still further reduce the cost per patient per diem at the Connaught Hospital and the rate for 1935 has been reduced from 9*d.* to $7\frac{1}{4}d.$

215. The following table shows the figures of in-patients and maternity cases admitted to the Connaught Hospital during the past ten years:—

Year.	Total In-patients.	Maternity In-patients.	Remarks.
1926 ...	1,867	251	
1927 ...	2,046	301	
1928 ...	1,945	311	
1929 ...	2,228	353	
1930 ...	2,383	363	New surgical block—two wards of fourteen beds and four cubicles.
1931 ...	2,335	357	
1932 ...	2,628	344	New children's ward—ten beds and cubicle.
1933 ...	2,268	382	
1934 ...	2,464	501	
1935 ...	2,672	554	

216. The following table gives the comparative figures of out-patient attendances at the Connaught Hospital during the past ten years:—

OUT-PATIENTS AT THE CONNAUGHT HOSPITAL DURING THE PAST TEN YEARS:—

——	1926.	1927.	1928.	1929.	1930.	1931.	1932.	1933.	1934.	1935.
New cases ..	13,834	14,780	13,864	14,265	14,276	10,583	12,019	17,313	17,155	18,635
Subsequent attendances	32,170	34,780	47,040	59,441	41,722	50,059	55,198	50,147	105,511	135,094
Total ...	46,010	49,560	60,904	73,706	55,998	60,642	67,217	67,460	122,666	153,729

217. (*b*) *European Hospital.*—During the year 141 cases were admitted to hospital, showing an increase of 42 over the previous year. Of this number 60 were official and 81 non-official. There has been a large increase in the number of cases admitted from ships. There were 5 deaths during the year, 3 officials and 2 non-officials.

218. (*c*) *Other Hospitals.*—There are now three permanent Protectorate type hospitals. One is situated at Makeni in the Northern Province, one at Bo and a new one has been erected at Moyamba during the year under review. Both these latter hospitals are situated in the Southern Province. The figures of attendances are as follows:—

	Makeni.	Bo.	Moyamba.
In-patients	241	445	179
Out-patients:			
New cases	2,612	3,052	2,850
Subsequent attendances ...	9,915	18,811	4,187

219. The erection of a new hospital at Moyamba has been greatly appreciated.

220. (*d*) *Mission Hospitals Subsidised by Government.*—During the year Government has subsidised 3 Mission hospitals in the Protectorate, and has given a grant-in-aid to the Princess Christian Mission Hospital in Freetown. The work of the Missions has been most satisfactory and has been greatly appreciated by the people of the Protectorate.

221. (*e*) *Government Dispensaries.*—There are 8 dispensaries established in the Colony and 12 in the Protectorate. Senior dispensers, assisted by hospital porters, are placed in charge. These dispensaries, which administer simple remedies to the local population, are inspected frequently by the Medical Officers of the districts.

VIII—Meteorology.

222. *Rainfall.*—The rainfall for the year 1935 at Freetown (Tower Hill) was 199·05 inches, as compared with 172·96 inches in 1934, the highest recorded for thirty-nine years.

223. August was the heaviest month with 52·65 inches, and the highest rainfall in any one day was 11·84 inches on the 30th of August.

224. The lowest temperature recorded on the Tower Hill Observatory was 64 degrees in the shade on the 28th of July.

225. The highest temperature was 95 degrees in the shade on the 8th of April.

226. The highest minimum was 79 degrees on the 10th and 11th of May.

227. The lowest maximum was 76 degrees on the 24th of September.

228. The rainfall per month is as follows:—

January	0·80
February	Nil
March	Nil
April	0·82
May	10·83
June	32·86
July	41·20
August	52·65
September	34·38
October	16·46
November	7·70
December	1·35
Total	199·05 inches.

229. Hill Station reported a rainfall of 184·54 inches as compared with 152·14 inches in 1934. The heaviest month was August with 47·73 inches and the highest in any one day was 8·43 inches on the 30th day of August, 1935. This is the second year in succession that the rainfall in Freetown has exceeded that at Hill Station.

IX—Scientific.

CONNAUGHT HOSPITAL LABORATORY.

Annual Report—1935.

230. The year 1935, marks the initiation of an augmented laboratory service for the Connaught Hospital, Colony and Protectorate.

231. Professor R. M. Gordon of the Sir Alfred Lewis Jones Research Laboratory was appointed Consulting Pathologist to the Government and arrangements made whereby the staffs of the Sir Alfred Lewis Jones Research Laboratory and the Connaught Hospital Laboratory, work as a Pathological Unit.

232. The augmentation of the laboratory personnel has already justified itself even at this early stage, as will be seen from the following summary of the work done during the year.

I—BACTERIOLOGICAL EXAMINATIONS.

233. During the year, 180 cultures were made from various sources. These may be classified as follows:—

(i) Cultures of Faeces for Organisms of the Enteric Group:

	European.	African.	Total.
No pathogenic organism isolated ...	22	31	53
Bact. flexneri	3	11	14
Bact. typhosum	—	1	1
Bact. shigæ	—	1	1
Bact. alkaligenes	1	1	2
Salmonella group (unclassified) ...	1	3	4
Total	27	48	75

Of the *Bact. flexneri*, four proved to be strains other than Y. Through the kindness of Dr. J. A. Young, West African Medical Staff, Lagos, typing sera are now available for the identification of these strains.

		European.	African.	Total.
(ii) Blood cultures:		7	28	35
Sterile	26			
B. typhosum	6			
B. paratyphosum B ...	2			
B. coli	1			
All positive cultures obtained from Africans.				
(iii) Cultures from boils, ganglions, joints: Pleural fluids, etc.		5	11	16
Positive 6; staphylococci and streptococci only.				
(iv) Cerebro-spinal fluid cultures:				
(Two yielded staphylococci, probably contaminatory); one of these cerebro-spinal fluid was positive for *N. meningitidis* on direct examination, but all cultures were contaminated by staphylococci.				
(v) Urine cultures:		12	22	34
Sterile	14			
Growth of staphylococci streptococci, *B. coli, etc.*	19			
B. proteus X 19	1			
(vi) Throat swabs for culture:		5	1	6
Three for *C. diphtheriæ, three for* N. meningitidis, all negative				
(vii) Cultures for the presence of fungi:		2	2	4
No pathogenic organism isolated	3			
Endomyces	1			
(viii) Water analysis from the Gambia:		—	—	4
(ix) Dark ground examination for the presence of T. pallidum:		6	9	15
Five of these examinations yielded positive results		1	4	5

(x) Dark ground examination of urine for presence of L. icterohæmorrhagiæ:

Total number of urines examined ... 5; from 3 European and 2 African cases; all negative.

An experimental infection of an animal with urine for presence of *L. icterohæmorrhagiæ* was made with negative results.

II—SERIOLOGICAL EXAMINATIONS.

234. The Kahn test has been carried out as formerly for the diagnosis of syphilis and yaws, but in addition, during the latter part of the year a trial was made of the Meinieke flocculation reaction as a confirmatory test. Until a sufficiently large series of results with the two tests has been obtained for comparison, no figures will be given.

235. During the year a special investigation was made of cases of unexplained pyrexia with a view to determining whether typhus existed in the Colony; and one case of this disease was detected towards the latter end of the year.

236. *Kahn Tests.*—516 tests were performed during the year with the following results:—

	African.	European.	Total.
Positive	260	18	278
Negative	200	38	238
Total	460	56	516

An interesting finding during these examinations was the presence of a large proportion of reversed readings, 68 *per cent.* of the reactions showing their highest reading in the tube containing the largest quantity of antigen and 32 *per cent.* yielding their highest reading in the serum-antigen dilution of 12: 1.

237. *Widals.*—The total number of agglutinations carried out for the enteric group was 76, these being performed on 70 cases. *B. typhosum* infection was diagnosed in 11 of these cases (1 European and 10 Africans), in 4 of the positive cases this organism was isolated by blood culture.

238. *Weil-Felix.*—The total number of weil-felix reactions carried out was 30 on 22 individuals (15 Africans, 7 Europeans). One African yielded a positive result, one was doubtful (African) but probably positive, and 25 were negative.

239. *Diagnosis of Glandular Fever.*—Three agglutination tests with sheep's corpuscles were carried out with sera from 3 Africans with suspicious symptoms: all were negative.

III—HISTOLOGICAL EXAMINATIONS.

240. This type of examination has been one of the most outstanding and interesting features of our unit. It has meant the training of one Laboratory Assistant to prepare and cut sections—a task which is none too easy in the tropics.

241. *Tumours submitted for Examination.*—Thirty-three specimens of tumour tissues were examined during the year. The site and nature of the tumours are distributed as follows:—

Bladder	Squamous epithelioma
Breast	Duct careinoma
Breast	Fibro-adenoma (2)
Breast	Adenocareinoma (2)
Breast	Encephaloid careinoma
Cervix	Squamous epithelioma
Cervix	Adenocareinoma
Eye	Retinoblastoma
External ear	Hæmangioma
Foot	Melanoma (2)
Foot	Fibro-sarcoma
Forearm	Ganglioneruroma
Jaw	Sarcoma
Jaw	Adamantinoma
Liver	Adenocarcinoma
Optic nerve	Neuromyxoma
Orbit	Sarcoma
Pre-patellar region	Fibroma
Palm of hand	Benign papilloma
Retro-peritoneal	Lipo-sarcoma
Scalp	Fibro-lipoma
Scalp	Angioma
Skin of leg	Benign papilloma
Skin over knee	Benign papilloma
Skin over neck	Benign papilloma
Soft palate	Myosarcoma
Stomach	Fibroma
Thigh	Sarcoma
Thigh	Fibro-sareoma
Testicle	Carcinoma

With the exception of two European cases with benign papillomata, all these tissues were removed from Africans.

242. In addition, 34 tissues removed at operation on Africans were submitted for histological report. Of these, 22 proved to be granulomata (3 syphilis, 5 yaws, 9 T.B., 5 pyogenic), 4 were colloid goitres, and the remaining 8 a variety of conditions including a specimen showing Hodgkin's disease.

243. In connection with the autopsies and histological examiation of 57 tissues from 21 cases was made either to confirm or establish a diagnosis. The results of these examinations are given under the heading " Autopsies."

IV—AUTOPSIES.

244. Seventy-four autopsies were carried out during the year. The majority were paupers found dead by the Police in different parts of the City.

Autopsies:

Accidents			13
Fracture of base of skull	1		
Burns	1		
Laceration of liver	1		
Laceration of spleen	2		
Suffocation	1		
Concussion of brain	1		
Shock	2		
Drowning	4		
Lobar pneumonia			9
Pleurisy			1
Empyæma			1
Broncho-pneumonia			1
Acute pulmonary œdema			1
Sub-acute nephritis			7
Chronic nephritis			7
Supperative pyelonephritis			1
Fatty degeneration of the heart			1
Aneurism			5
Tuberculosis			7
Pulmonary acute	4		
Chronic phthisis	1		
Generalised	2		
Typhoid			1
Bacillary dysentery			2
Intestinal obstruction			1
Peritonitis			2
Tetanus			1
Gastro-enteritis			1
Atheroma			3
Cerebral malaria			1
Anæmia			2
Ankylostomiasis			1
Tropical abscess of liver			1
Oedema glottis			1
Pyæmia			1
Yellow fever (European)			1
Mercuric chloride poisoning			1
Medico-Legal case—Fracture of skull (murder)			1

V—BIOCHEMICAL EXAMINATIONS.

245. We hope to develop this branch of examination during the coming year as, no doubt, there is ample scope for such examinations.

246. *Biochemical Examinations.*—Total, including re-examinations, 14.

	European.	African.	Total.
A.—Glucose tolerance test	1	2	3
B.—Van den berg	3	1	4
C.—Urea concentration test	4	1	5

VI—GENERAL PATHOLOGICAL EXAMINATIONS.

247. Details of work performed under this head, are outlined in the following paragraphs.

248. *Examination of Stained Smears (from various sources) for Organisms:*

	European..	African	Total.
Staphylococci, streptococci, etc., reported	3	7	12
Koch weeks bacilli	—	1	—
Morax—Axenfeld	—	1	—

249. *Miscellaneous.*—Tests for the presence of blood. Total 2; both Africans.

250. Examination of tissues for the presence of filaria, 9 cases, all Africans; 5 positive, 4 negative.

251. Examination of tissue smears and skin snips for the presence of leprosy bacilli, 56 Africans; 8 positive.

252. Typing of donors for transfusion, 3 Europeans, 5 Africans. Skin scrapings for mycelia, 2 Europeans; 1 positive, 1 negative.

Skin snips for *O. volvulus* larvæ	1
Skin test for presence of Ducrey's bacillus	1
Nature of deposit on surgical instruments	1
Spleen smears for Leishmania	1

253. Four intestinal worms and a number of insects were submitted for identification.

254. *Rabies.*—49 dogs and 2 cats were sent for examination for rabies. Of these, post-mortem examinations were held on 2 cats and 4 dogs, with positive results in 2 dogs.

TABLE I.

Examination of Blood Films for Parasites.

	No. of Examinations.	Sub-tertian.	Crescents.	Quartan.	Benign tertian.	Sub-tertian and Quartan.	Benign tertian and Quartan.	Benign tertian and Sub-tertian.	Ovale.	Trypanosomiasis.	Microfilaria.
Europeans ...	274	50	1	10	1	9	—	—	—	—	—
Africans ...	3,532	763	46	365	10	164	4	1	2	—	—
Total ...	3,806	813	47	375	11	173	4	1	2	—	—

Two animal bloods were examined for Trypanosomes and were negative.

TABLE II.

Examination of Fæces.

	No. of Examinations.	Taenia.	Ankylostomes.	Ascaris.	T. trichuris.	Strongyloides.	E. histolytica free.	E. histol. encysted.	E. coli free.	E. coli encysted.	E. nana.	Flagellates.	Blood.	Mucus.	Cellular exudate.	Other Protozoa.
Europeans ...	68	—	1	2	3	—	—	—	—	—	1	—	9	4	4	3
Africans ...	2,173	21	188	192	90	79	51	14	1	7	—	17	38	35	45	5
Total ...	2,241	21	189	194	93	79	51	14	1	7	1	17	47	39	49	8

TABLE III.

Examination of Urine.

	No. of Examinations.	Albumen.	Sugar.	Casts.	Pus.	Blood.	S. haematobium.	Bile pigments.	Acetone.	Diacetic acid.
Europeans	66	10	—	9	6	6	—	2	2	1
Africans	929	368	19	71	78	44	5	6	4	2
Total	995	378	19	80	84	50	5	8	6	3

TABLE IV.

Blood Examinations.

——	Number.	Haemoglobin Percentage.	Total White Cell Count.	Total Red Cell Count.	Differential Count.
Europeans	54	12	6	13	13
Africans	114	46	47	30	44
Total ...	168	58	53	43	57

Five special reports were sent in—3 Europeans and 2 Africans.

TABLE V.

Sputum Examinations.

——	Number Examined.	T.B.	Amoebæ.	Fungus.
Europeans ...	6	—	—	—
Africans	291	62	*1	1
Total ...	297	62	1	1

* Probably E. histolytica.

TABLE VI.

Pus Smears for Gonococci.

——	Number of Examinations.	Positive.
Europeans	27	4
Africans	324	111
Total	351	115

Special Reports.

255. During the year a Rat Survey of Freetown has been undertaken and the results obtained are the subject of a special report.

256. A number of cases of typhoid occurred during the early part of the year, and in this connection a bacteriological examination was made of the local oysters which are common articles of food in Freetown; investigation showed that a very high proportion of the oysters were contaminated by fæcal organisms. A short note on the findings has been published in a scientific journal.

E. A. RENNER,.
Pathologist (Sierra Leone).

Tables.

I—STAFF.

Medical Staff.

Office.	Name.	Absent on Leave From			Absent on Leave To			Remarks.
Director of Medical and Sanitary Services ...	P. D. Oakley ...	25	4	35	28	9	35	
Specialist	Q. Stewart ...		—		3	3	35	
Senior Medical Officer	E. S. Walls	28	11	35		—		
,, ...	C. B. Jennings ...		—			—		
Medical Officer ...	A. W. Lewis ...		—			—		
,, ...	W. Allan		—			—		Ag. M.O. (H) 1-1-35 to 31-12-35.
,, ...	R. B. Henderson ...	24	1	35	22	6	35	Resigned, 23-6-35.
,, ...	H. R. F. Tweedy ...	8	5	35	11	10	35	
,, ...	H. Peaston ...	22	5	35	25	10	35	
,, ...	A. Cathcart ...	11	9	35		—		
,, ...	W. A. Burnett ...		—		8	3	35	Services terminated, 9-3-35.
,, ...	A. J. Johnson ...	12	12	35		—		
,, ...	W. J. Laird ...	19	6	35	22	11	35	
,, ...	W. M. Quin ...		—			—		Appointed, 24-4-35.
,, ...	W. R. Williams ...		—			—		do.
Senior Medical Officer (Sierra Leone) ...	E. J. Wright ...		—			—		
Pathologist (Sierra Leone)	E. A. Renner ...		—			—		
Medical Officer (Sierra Leone)	M. C. F. Easmon ...	7	2	35	6	11	35	
,, ...	E. H. T. Cummings		—			—		
,, ...	W. B. Hughes ...		—		3	2	35	
,, ...	W. F. O. Taylor ...	22	11	35		—		
,, ...	M. A. S. Margai ...		—			—		

Health Staff.

Assistant Director of Medical Services (Health)	J. A. A. Duncan, M.C.	11	10	35		—		
Senior Health Officer	A. B. Monks ...	24	1	35	21	4	35	Retired, 22-4-35.
Medical Officer (Health)	Vacant		—			—		
Chief Sanitary Superintendent	G. V. Herd ...		—			—		
Sanitary Superintendent	A. E. Wilkinson ...		—		16	2	35	
,, ...	P. Osment ...	12	12	35		—		

Nursing Staff.

Senior Nursing Sister	Miss A. E. Macmaster	21	3	35	12	7	35	
,, ...	Miss G. M. Spencer	8	5	35	6	9	35	
Nursing Sister ...	Miss L. D. S. McPetrie	14	11	35		—		
,, ...	Miss N. M. Brown ...	3	5	35	11	9	35	
,, ...	Miss H. F. W. Young		—			—		
,, ...	Miss M. C. Jennings		—			—		

African Medical Subordinate Staff.

Office.	Name.	Absent on Leave. From			Absent on Leave. To			Remarks.
Chief Dispenser ...	M. O. Frazer ...		—			—		
Assistant Chief Dispenser	P. J. John ...		—			—		
Chief Store-keeper ...	K. A. King ...	29	10	35	28	12	35	
Hospital Warden ...	P. Q. A John ...	12	6	35	1	9	35	
First Class Dispenser	M. P. Neville ...		—			—		
,, ,,	I. B. Doherty ...	18	9	35	17	11	35	
,, ,,	T. M. T. Scott ...	2	10	35	1	12	35	
,, ,,	J. C. May ...		—			—		
,, ,,	S. B. Williams ...	26	3	35	25	5	35	
,, ,,	E. W. B. Cole ...		—			—		
,, ,,	G. C. Heroe ...	23	10	35	16	12	35	
,, ,,	E. F. Smith ...		—			—		
,, ,,	W. D. Hedd ...		—			—		
Second Class Dispensers	Ten		—			—		
Third Class Dispensers	Fourteen		—			—		
Laboratory Assistant	C. H. R. Greene ...		—			—		
Male Nurses and Apprentices ...	Thirty-three		—			—		
Female Nurses and Probationers ...	Twenty-five		—			—		
Midwives	Four		—			—		

African Health Subordinate Staff.

Senior Health Visitor	Miss O. T. Metzger	8	5	35	23	6	35	
Health Visitor ...	Mrs. V. S. Macfoy		—			—		
,, ,, ...	Miss A. Macauley		—			—		
Second Grade Sanitary Inspector ...	W. E. J. Corkson ...		—		13	1	35	
Third Grade Sanitary Inspector ...	D. H. Raschid ...		—			—		
Fourth Grade Sanitary Inspectors ...	Seven		—			—		
Fifth Grade Sanitary Inspectors and Learners	Twenty-seven		—			—		

Medical and Health Clerical Staff.

Chief Clerk ...	S. G. Randall ...	1	5	35	31	7	35	
Second Grade Clerk ...	H. H. Lewis ...		—			—		
Senior Third Grade Clerks	Nine		—			—		
Junior Third Grade Clerks	Six		—			—		

1935 Estimates—Expenditure.

MEDICAL.

Personal Emoluments:	£
European	14,778
African	19,828
Allowances	744
Total	£35,350

Other Charges:	£
Medical supplies and hospital equipment	3,390
Diets, provisions, etc.	3,454
Contribution to various associations and subsidies to institutions	2,700
Passages, transport, freight, etc.	1,499
Other items	525
Total	£11,568

HEALTH.

Personal Emoluments:	£
European	3,532
African	4,914
Labour	5,444
Total	£13,890

Other Charges:	£
Refuse disposal	760
Preventive measures	1,073
Transport	1,158
Other items	134
Total	£3,125

RECEIPTS.

	£
Hospital fees	961
Lunatic hospital fees	120
Sale of medicines	1,060
Total	£2,141

III—RETURN OF DISEASES AND DEATHS—EUROPEAN.

Diseases.	IN-PATIENTS. Remaining in Hospital at end of 1934.	Total Admission.	Total Cases treated.	Deaths.	Remaining in Hospital at end of 1935.	Out-patients.
I—Epidemic, Endemic, and Infectious Diseases.						
1. Enteric Group :						
(*a*) Typhoid fever	...	2	2	...	...	2
5. Malaria :						
(*a*) Tertian	...	...	...	...	...	2
(*b*) Quartan	...	1	1	...	...	1
(*c*) Aestivo-autumnal	2	33	35	...	2	21
(*d*) Cachexia	...	...	...	...	...	1
(*e*) Unclassified	...	20	20	...	...	43
(*f*) Blackwater	...	1	1	...	1	1
16. Dysentery :						
(*a*) Amœbic	...	4	4	...	2	2
(*b*) Bacillary	...	2	2	...	...	2
18. Yellow fever	...	1	1	1	...	...
21. Erysipelas	...	1	1	...	...	...
24. Epidemic cerebro-spinal fever ...	...	1	1	...	...	...
31. Tuberculosis, pulmonary and laryngeal	...	...	...	...	...	1
38. Syphilis :						
(*b*) Secondary	...	1	1	...	...	1
(*c*) Tertiary	...	...	...	...	...	1
39. Soft chancre	...	...	...	...	...	1
40. A.—Gonorrhœa and its complications	...	...	...	...	...	1
41. Septicæmia	...	1	1	1	...	...
II—General Diseases not mentioned above.						
50. Tumours, non-malignant ...	...	...	...	...	...	1
52. Chronic rheumatism	...	...	...	...	...	6
58. Anæmia :						
(*b*) Other anæmias and chlorosis ...	...	...	.	...	...	1
69. Other general diseases : Auto-intoxication	...	...	...	...	...	7
Carried forward ...	2	68	70	2	5	95

The form shows in the main the arrangement of diseases in the International Nomenclature, 1921 Edition To save space the unimportant diseases of any class can be grouped in their places as " Other Diseases " of the class.

EUROPEAN—*continued.*

Diseases.	IN-PATIENTS.					Out-patients.
	Remaining in Hospital at end of 1934.	Total Admission.	Total Cases treated.	Deaths.	Remaining in Hospita at end of 1935.	
Brought forward ...	2	68	70	2	5	95
III—AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE THE SENSES.						
82. B.—Neuritis	1	2	3	...	...	3
C.—Neurasthenia	...	4	4	...	...	...
85. Affections of the Organs of Vision :						
(*a*) Diseases of the eye	...	1	1	...	...	3
(*b*) Conjunctivitis	...	...	...	...	...	2
(*c*) Other affections of the eye ...	...	1	1	...	...	12
86. Affections of the ear or mastoid sinus	...	...	...	...	...	19
IV—AFFECTIONS OF THE CIRCULATORY SYSTEM.						
(*b*) Myocarditis	...	1	1	...	...	...
93. Diseases of the Veins :						
Hæmorrhoids	...	1	1	...	..	4
94. Diseases of the Lymphatic System :						
Lymphadenitis, bubo (non-specific)	...	1	1	...	...	1
V—AFFECTIONS OF THE RESPIRATORY SYSTEM.						
97. Diseases of the Nasal Passages :						
Rhinitis	...	1	1	...	...	...
Coryza	...	...	...	...	...	11
98. Affections of the Larynx :						
Laryngitis	...	...	...	...	...	1
99. Bronchitis :						
(*a*) Acute	...	1	1	...	...	3
(*b*) Chronic	...	...	...	...	...	2
105. Asthma	...	1	1	...	...	1
VI—DISEASES OF THE DIGESTIVE SYSTEM.						
108. A—Diseases of Teeth or Gums :						
Caries, pyorrhœa, etc. ...	...	1	1	...	...	9
109. Affections of the Pharynx or Tonsils :						
Tonsilitis	...	2	2	...	...	10
Pharyngitis	...	2	2	...	...	9
Carried forward ...	3	87	90	2	5	185

EUROPEAN—*continued.*

Diseases.	IN-PATIENTS.					Out-patients.
	Remaining in Hospital at end of 1934.	Total Admission.	Total Cases treated.	Deaths.	Remaining in Hospital at end of 1935.	
Brought forward ...	3	87	90	2	5	185
VI—DISEASES OF THE DIGESTIVE SYSTEM—*continued.*						
11. A.—Ulcer of the stomach ...	...	1	1	...	...	...
B.—Ulcer of the duodenum ...	...	1	1	...	...	...
12. Other Affections of the Stomach :						
Gastritis	...	4	4	...	...	13
Dyspepsia, etc.	...	...	...	...	...	12
113. Diarrhœa and Enteritis :						
Under two years	...	...	...	...	...	1
114. Diarrhœa and Enteritis :						
Two years and over	...	3	3	...	...	13
Colitis	...	...	...	...	...	3
115. Ankylostomiasis	...	2	2	...	...	...
116. Diseases due to Intestinal Parasites :						
Ascaris	...	1	1	...	...	3
117. Appendicitis	...	6	6	1	...	...
118. Hernia	...	1	1	...	1	...
119. A.—Affections of the Anus, fistula, etc.	...	1	1	...	...	2
Constipation	...	...	...	...	...	2
124. Other Affections of the Liver :						
Jaundice	...	5	5	...	...	3
127. Other Affections of the digestive system	...	...	...	...	...	1
VII—DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL).						
129. Chronic	...	1	1	1	...	...
133. Diseases of the Bladder :						
Cystitis	...	2	2	...	...	1
134. Diseases of the Urethra :						
(*a*) Stricture	...	...	...	...	...	1
(*b*) Other	...	1	1	...	...	1
135. Diseases of the Prostate :						
Prostatitis	...	3	3	...	...	2
136. Diseases (non-venereal) of the Genital Organs of Man :						
Orchitis	...	1	1	...	...	...
Ulcer of penis	...	...	...	...	...	1
Carried forward ...	3	120	123	4	6	244

EUROPEAN—*continued.*

Diseases.	IN-PATIENTS. Remaining in Hospital at end of 1934.	Total Admission.	Total Cases treated.	Deaths.	Remaining in Hospital at end of 1935.	Out-patients.
Brought forward	3	120	123	4	6	244
VII—DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL), *continued.*						
141. Amenorrhœa	...	...	..	...	...	2
IX—AFFECTIONS OF THE SKIN AND CELLULAR TISSUES.						
152. Boil	...	1	1	...	...	12
Carbuncle	...	1	1	...	...	1
153. Abscess	...	...	...	...	...	1
Whitlow	...	...	...	...	...	1
Cellulitis	...	4	4	...	...	...
154. A.—Tinea	...	...	...	...	...	6
B.—Scabies	...	...	...	...	...	2
155. Other diseases of the skin ...	...	...	...	...	...	14
(*b*) Urticaria	...	2	2	...	...	4
(*c*) Eczema	...	1	1	...	...	5
(*d*) Herpes	...	...	...	...	...	4
(*h*) Chigoes	...	...	...	...	...	1
(*j*) Ulcer	...	...	...	...	...	15
X—DISEASES OF BONES AND ORGANS OF LOCOMOTION (OTHER THAN TUBERCULOUS).						
157. Diseases of Joints:						
Arthritis	...	...	...	...	...	2
Synovitis	...	1	1	...	1	1
158. Other diseases of bones or organs of locomotion	...	...	...	...	...	2
XIV—AFFECTIONS PRODUCED BY EXTERNAL CAUSES.						
179. Burns (other than by fire) ...	...	1	1	...	...	2
183. Wounds (by firearms, war excepted)	...	1	1	...	...	...
185. Wounds (by fall)	...	2	2	...	...	1
188. Wounds (crushing, e.g. railway accidents, etc.)	...	1	1	...	...	...
189. Injuries inflicted by animals, bites, kicks, etc.	...	...	...	...	...	7
194. Exposure to Heat:						
Heat stroke	...	1	1	...	...	...
196. Electric shock	...	1	1	...	...	...
201. B.—Sprain	...	...	...	...	...	2
202. Other external injuries ...	...	...	...	...	...	10
Carried forward ...	3	137	140	4	7	341

EUROPEAN—*continued.*

Diseases.	IN-PATIENTS. Remaining in Hospital at end of 1934.	Total Admission.	Total Cases treated.	Deaths.	Remaining in Hospital at end of 1935.	Out-patients.
Brought forward	3	137	140	4	7	341
XV—ILL-DEFINED DISEASES.						
205. A.—Diseases not already specified or Ill-defined :						
Asthenia	...	1	1	...	...	5
Shock	...	2	2	...	...	2
No appreciable diseases	...	...	...	...	...	11
Pyrexia of uncertain origin ...	...	...	...	...	...	1
Undiagnosed	...	...	...	...	...	1
Total	3	140	143	4	7	361

IV—RETURN OF DISEASES AND DEATHS—AFRICAN.

Diseases.	IN-PATIENTS. Remaining in Hospital at end of 1934.	Total Admission.	Total Cases treated.	Deaths.	Remaining in Hospital at end of 1935.	Out-patients.
I—Epidemic, Endemic and Infectious Diseases.						
1. Enteric Group :						
(*a*) Typhoid fever	...	12	12	5	...	1
(*c*) Paratyphoid B.	...	2	2	...	...	...
5. Malaria :						
(*a*) Tertian	...	21	21	2	...	60
(*b*) Quartan	...	36	36	3	1	109
(*c*) Aestivo-autumnal	2	69	71	2	...	504
(*d*) Cachexia	...	1	1	1	...	12
(*e*) Unclassified	1	252	253	2	6	6,520
(*f*) Blackwater	...	...	...	...	...	5
6. Smallpox	7	122	129	15	1	405
7. Measles	...	13	13	...	...	244
9. Whooping cough	...	4	4	1	...	357
10. Diphtheria	...	...	...	...	...	6
13. Mumps	...	2	2	1	...	6
16. Dysentery :						
(*a*) Amœbic	2	74	76	5	3	164
(*b*) Bacillary	...	8	8	1	...	2
(*c*) Undefined or due to other causes	1	24	25	2	1	195
18. Yellow fever	...	1	1	...	...	...
20. Leprosy	13	10	23	3	12	222
21. Erysipelas	...	2	2	...	...	1
22. Acute poliomyelitis	...	...	...	...	...	3
25. Other Epidemic Diseases :						
(*b*) Varicella (chicken-pox) ...	1	104	105	...	4	58
(*g*) Yaws	12	46	58	5	7	6,481
(*h*) Trypanosomiasis	...	4	4	...	...	...
29. Tetanus	1	25	26	14	1	14
30. Mycosis	...	1	1	...	...	...
31. Tuberculosis, pulmonary and laryngeal	5	45	50	14	1	91
33. Tuberculosis of the intestines or peritoneum	...	4	4	1	...	1
34. Tuberculosis of the vertebral column	1	2	3	...	...	...
35. Tuberculosis of bones and joints ...	...	2	2	...	...	4
36. Tuberculosis of other organs :						
(*a*) Skin or subcutaneous tissue (Lupus)	...	1	1	...	1	...
(*b*) Bones	...	...	...	...	...	1
(*c*) Lymphatic system	...	2	2	...	...	8
(*e*) Other organs	...	3	3	...	...	1
37. Tuberculosis disseminated :						
(*b*) Chronic	...	1	1	...	1	...
38. Syphilis :						
(*a*) Primary	1	5	6	...	2	48
(*b*) Secondary	...	4	4	...	1	57
(*c*) Tertiary	1	19	20	1	5	383
(*d*) Hereditary	...	...	...	...	...	5
(*e*) Period not indicated ...	1	1	2	...	1	38
Carried forward ...	49	922	971	78	48	16,006

The form shows in the main the arrangement of diseases in the International Nomenclature, 1921 Edition. To save space the unimportant diseases of any class can be grouped in their places as "Other Diseases" of the class.

AFRICAN—*continued.*

Diseases.	IN-PATIENTS. Remaining in Hospital at end of 1934.	Total Admission.	Total Cases treated.	Deaths.	Remaining in Hospital at end of 1935.	Out-patients.
Brought forward ...	49	922	971	78	48	16,006
I—EPIDEMIC, ENDEMIC AND INFECTIOUS DISEASES—*continued.*						
39. Soft chancre	...	29	29	...	...	126
40. A.—Gonorrhœa and its complications	1	44	45	...	1	2,130
B.—Gonorrhœal ophthalmia ...	...	10	10	...	...	53
C.—Gonorrhœal arthritis ...	2	27	29	...	...	256
D.—Granuloma venereum ...	...	...	...	...	...	2
41. Septicæmia	...	2	2	2	...	...
42. Other infections diseases ...	...	...	...	...	...	1
II—GENERAL DISEASES NOT MENTIONED ABOVE.						
43. Cancer or other malignant tumours of the buccal cavity	...	2	2	1	...	...
44. Cancer or other malignant tumours of the stomach or liver	...	3	3	1	...	1
45. Cancer or other malignant tumours of the peritoneum intestines, rectum	...	...	...	...	...	1
46. Cancer or other malignant tumours of the female genital organs ...	...	3	3	1	...	2
47. Cancer or other malignant tumours of the breast	...	3	3	...	1	4
48. Cancer or other malignant tumours of the skin	1	4	5	...	...	11
49. Cancer or other malignant tumours of organs not specified ...	...	9	9	1	1	5
50. Tumours, non-malignant ...	2	34	36	2	4	225
52. Chronic rheumatism	3	45	48	1	8	7,588
53. Scurvy (including Barlow's disease)	...	...	...	...	...	4
55. Beri-beri	...	6	6	3	...	6
56. Rickets	1	1	2	...	...	13
57. Diabetes (not including insipidus)	...	5	5	1	...	3
58. Anæmia :						
(*b*) Other anæmias and chlorosis ...	...	6	6	...	...	563
Avitaminosis	9	34	43	2	6	1,268
60. Diseases of the Thyroid Gland :						
(*a*) Exophthalmic goitre ...	...	4	4	...	...	17
(*b*) Other diseases of the thyroid gland, myxœdema	...	1	1	...	...	8
62. Diseases of the thymus	...	...	...	...	...	12
64. Diseases of the spleen	...	10	10	1	1	298
65. Leukæmia :						
(*b*) Hodgkin's disease	...	...	...	...	...	3
69. Other general diseases	...	49	49	...	...	364
Auto-intoxication	...	...	...	...	...	17
Diabetes insipidus	...	1	1	...	...	3
Carried forward ...	68	1,254	1,322	94	70	28,990

AFRICAN—*continued.*

Diseases.	IN-PATIENTS. Remaining in Hospital at end of 1934.	Total Admission.	Total Cases treated.	Deaths.	Remaining in Hospital at end of 1935.	Out-patients.
Bronght forward ...	68	1,254	1,322	94	70	28,990
III—AFFECTIONS OF THE NERVOUS SYSTEM AND ORGANS OF THE SENSES.						
70. Encephalitis (not including encephalitis lethargica)	...	2	2	...	...	...
71. Meningitis (not including tuberculous meningitis or cerebro-spinal meningitis)	1	5	6	4	...	2
72. Locomotor ataxia	...	2	2	...	1	23
73. Other affections of the spinal cord ...	...	2	2	1	...	2
74. Apoplexy	...	1	1	1	...	...
(*a*) Hæmorrhage	...	13	13	8	...	3
(*c*) Thrombosis	...	...	...	...	...	2
75. Paralysis :						
(*a*) Hemiplegia	7	38	45	7	8	65
(*b*) Other paralysis	9	21	30	7	9	62
77. Other forms of mental alienation	7	37	44	7	12	21
78. Epilepsy	...	9	9	...	...	29
79. Eclampsia, convulsions (non-puerperal) 5 years or over	...	2	2	...	...	...
80. Infantile convulsions	...	...	...	...	...	8
82. A.—Hysteria	...	...	...	...	...	3
B.—Neuritis	...	13	13	...	...	142
C.—Neurasthenia	...	2	2	...	...	47
83. Cerebral softening	...	1	1	1	...	...
84. Other affections of the nervous system, such as paralysis agitans	...	4	4	...	1	127
85. Affections of the Organs of Vision :						
(*a*) Diseases of the eye ...	7	28	35	...	8	396
(*b*) Conjunctivitis	1	21	22	...	...	879
(*c*) Trachoma	...	2	2	...	...	38
(*d*) Tumours of the eye ...	...	1	1	...	...	40
(*e*) Other affections of the eye ...	3	4	7	...	...	649
86. Affections of the ear or mastoid sinus	1	22	23	1	3	898
IV—AFFECTIONS OF THE CIRCULATORY SYSTEM.						
87. Pericarditis	...	2	2	...	...	8
88. Acute endocarditis, or myocarditis	1	...	1	...	...	4
89. Angina pectoris	...	...	...	...	...	3
90. Other diseases of the heart ...	1	20	21	4	...	99
(*a*) Valvular	1	29	30	9	2	56
Mitral	1	36	37	2	1	255
Aortic	...	13	13	2	...	16
(*b*) Myocarditis	1	10	11	3	1	33
91. Diseases of the Arteries :						
(*a*) Aneurism	...	4	4	3	...	21
(*b*) Arterio-sclerosis	...	2	2	...	2	14
(*c*) Other diseases	...	1	1	...	...	2
Carried forward ...	109	1,601	1,710	154	118	32,937

AFRICAN—*continued.*

Diseases.	IN-PATIENTS. Remaining in Hospital at end of 1934.	Total Admission.	Total Cases treated.	Deaths.	Remaining in Hospital at end of 1935.	Out-patients.
Brought forward ...	109	1,601	1,710	154	118	32,937
IV—AFFECTIONS OF THE CIRCULATORY SYSTEM—*continued.*						
93. Diseases of the Veins :						
Hæmorrhoids	1	5	6	...	1	85
Varicose veins	...	2	2	...	...	9
Phlebitis	...	3	3	...	...	1
94. Diseases of the Lymphatie System :						
Lymphangitis	...	1	1	...	...	32
Lymphadenitis, bubo (non-specifie)	4	82	86	1	4	532
95. Hæmorrhage of undetermined cause	...	8	8	1	...	4
96. Other affections of the cirenlatory system	...	5	5	...	...	41
V—AFFECTIONS OF THE RESPIRATORY SYSTEM.						
97. Diseases of the Nasal Passages :						
Adenoids	...	2	2	...	...	7
Polypus	...	2	2	...	...	1
Rhinitis	...	1	1	...	...	34
Coryza	...	8	8	...	...	1,081
Other diseases of the nasal passages	...	1	1	...	...	10
98. Affections of the Larynx :						
Laryngitis	1	1	2	1	...	68
99. Bronchitis :						
(*a*) Acute	...	52	52	2	4	6,849
(*b*) Chronic	2	72	74	...	2	5,225
100. Broncho-pneumonia	2	60	62	10	...	38
101. Pneumonia :						
(*a*) Lobar	1	134	135	36	4	88
(*b*) Unclassified	...	26	26	7	2	91
102. Pleurisy, empyema	4	36	40	3	...	132
105. Asthma	...	7	7	...	...	193
107. Other affeetions of the lungs ...	...	3	3	...	...	430
VI—DISEASES OF THE DIGESTIVE SYSTEM.						
108. A.—Diseases of Teeth or Gums :						
Caries, pyorrhœa, ete. ...	...	14	14	...	1	1,603
B.—Other Affections of the Mouth :						
Stomatitis	...	2	2	...	...	402
Glossitis, etc.	...	4	4	..	...	97
109. Affections of the Pharynx or Tonsils :						
Tonsilitis	...	14	14	...	...	468
Pharyngitis	...	1	1	...	...	83
110. Affections of the œsophagus ...	...	...	...	...	...	6
111. B.—Ulcer of the duodenum ...	...	1	1	...	...	1
112. Other Affeetions of the Stomach :						
Gastritis	...	19	19	1	...	404
Dyspepsia, ete.	...	10	10	1	...	3,800
Carried forward ...	124	2,177	2,301	217	136	54,752

AFRICAN—*continued.*

Diseases.	IN-PATIENTS.					Out-patients.
	Remaining in Hospital at end of 1934.	Total Admission.	Total Cases treated	Deaths.	Remaining in Hospital at end of 1935.	
Brought forward ...	124	2,177	2,301	217	136	54,752
VI—DISEASES OF THE DIGESTIVE SYSTEM—*continued.*						
113. Diarrhœa and Enteritis :						
Under two years	...	5	5	1	...	242
114. Diarrhœa and Enteritis :						
Two years and over... ...	1	67	68	12	1	1,102
Colitis	...	9	9	...	...	36
115. Ankylostomiasis	1	43	44	1	3	126
116. Diseases due to Intestinal Parasites :						
(*a*) Cestoda (tænia)	...	5	5	...	...	274
(*b*) Trematoda (flukes) ...	...	...	...	...	...	1
(*c*) Nematoda (other than ankylostoma) :						
Ascaris	...	21	21	...	...	5,369
Trichocephalus dispar ...	...	...	...	...	...	3
Strongylus	...	2	2	1	...	2
Oxyuris	...	1	1	...	...	6
(*e*) Other parasites	...	...	...	...	...	4
117. Appendicitis	...	1	1	...	...	2
118. Hernia	24	357	381	7	16	540
119. A.—Affections of the anus, fistula, etc.	1	18	19	2	3	48
B.—Other affections of the intestines	...	9	9	5	1	2
Constipation	...	8	8	...	...	8,324
122. Cirrhosis of the Liver :						
(*b*) Other forms	2	7	9	2	...	4
124. Other affections of the liver ...	...	...	...	...	...	3
Abscess	...	11	11	6	...	6
Hepatitis	3	15	18	...	...	73
Cholecystitis	...	...	...	...	...	2
Jaundice	1	13	14	...	...	25
126. Peritonitis (of unknown cause) ...	...	3	3	1	...	...
127. Other affections of the digestive system	1	19	20	1	...	762
VII—DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL).						
128. Acute nephritis	...	12	12	2	1	70
129. Chronic	1	34	35	8	2	86
130. B.—Schistosomiasis	...	14	14	1	...	51
131. Other affections of the Kidneys :						
Pyelitis, etc.	...	7	7	...	...	51
132. Urinary calculus	...	1	1	...	...	1
133. Diseases of the Bladder :						
Cystitis	...	17	17	3	2	113
134. Diseases of the Urethra :						
(*a*) Stricture	...	61	61	5	1	154
(*b*) Other	1	16	17	3	...	316
Carried forward ...	160	2,953	3,113	278	166	72,550

AFRICAN—*continued.*

Diseases	IN-PATIENTS. Remaining in Hospital at end of 1934.	Total Admission.	Total Cases treated.	Deaths.	Remaining in Hospital at end of 1935.	Out-patients
Brought forward ...	160	2,953	3,113	278	166	72,550
VII—DISEASES OF THE GENITO-URINARY SYSTEM (NON-VENEREAL)—*continued.*						
135. Diseases of the Prostate :						
Hypertrophy	...	1	1	1	...	2
Prostatitis	...	6	6	4	...	6
136. Diseases (non-venereal) of the Genital Organs of Man :						
Epididymitis	...	4	4	...	...	36
Orchitis	1	30	31	...	1	205
Hydrocele	7	103	110	6	7	152
Ulcer of penis	2	28	30	...	2	274
Other diseases of the male genital organs	...	16	16	1	...	75
137. Cysts or other non-malignant tumours of the ovaries ...	...	10	10	2	...	10
138. Salpingitis	...	45	45	2	1	85
Abscess of the pelvis	...	3	3	...	...	29
139. Uterine tumours (non-malignant)	...	31	31	5	2	57
140. Uterine haemorrhage (non-puerperal)	...	4	4	...	...	45
141. A.—Metritis	...	...	...	...	...	107
B.—Other affections of the female genital organs	1	24	25	...	1	463
Displacements of uterus ...	...	2	2	...	...	9
Amenorrhœa	...	3	3	...	...	894
Dysmenorrhœa	1	1	2	...	...	297
Leucorrhœa	...	..	...	...	...	63
142. Diseases of the Breast (non-puerperal) :						
Mastitis	...	5	5	...	...	65
Abscess of breast	...	6	6	...	...	35
VIII—PUERPERAL STATE.						
143. A.—Normal labour	6	415	421	...	9	2
B.—Accidents of pregnancy ...	...	3	3	...	...	1
(*a*) Abortion	2	21	23	...	1	32
(*b*) Ectopic gestation	...	2	2	1	...	1
(*c*) Other accidents of pregnancy	2	94	96	4	4	82
144. Puerperal hæmorrhage ...	...	2	2	...	...	...
145. Other accidents of parturition ...	...	15	15	1	...	18
146. Puerperal septicæmia	...	2	2	1	...	3
148. Puerperal eclampsia	...	5	5	2	...	1
149. Sequelæ of labour	...	2	2	1	...	3
IX—AFFECTIONS OF THE SKIN AND CELLULAR TISSUES.						
151. Gangrene	...	4	4	2	1	2
152. Boil	...	15	15	1	...	417
Carbuncle	1	9	10	...	1	40
Carried forward ...	183	3,864	4,047	312	196	76,061

AFRICAN—*continued.*

Diseases.	IN-PATIENTS. Remaining in Hospital at end of 1934.	Total Admission.	Total Cases treated.	Deaths.	Remaining in Hospital at end of 1935.	Out-patients.
Brought forward ...	183	3,864	4,047	312	196	76,061
IX—AFFECTION OF THE SKIN AND CELLULAR TISSUES—*continued.*						
153. Abscess	7	74	81	2	6	418
Whitlow	1	29	30	...	3	323
Cellulitis	5	85	90	6	3	380
154. A.—Tinea	...	1	1	...	...	349
B.—Scabies	...	1	1	...	...	1,293
155. Other diseases of the skin ...	...	14	14	...	...	669
(*a*) Erythema	...	...	...	...	...	7
(*b*) Urticaria	...	2	2	...	...	69
(*c*) Eczema	...	4	4	...	...	220
(*d*) Herpes	...	3	3	...	...	34
(*e*) Psoriasis	...	...	...	...	...	16
(*f*) Elephantiasis	10	89	99	...	14	400
(*h*) Chigoes	...	1	1	...	...	13
(*j*) Ulcer	41	235	276	14	37	5,422
X—DISEASES OF BONES AND ORGANS OF LOCOMOTION (OTHER THAN TUBERCULOUS).						
156. Diseases of Bones:						
Osteitis	1	19	20	1	1	254
157. Diseases of Joints:						
Arthritis	2	55	57	4	5	1,565
Synovitis	2	22	24	...	...	202
158. Other diseases of bones or organs of locomotion	3	28	31	...	6	901
XI—MALFORMATIONS.						
159. Malformations	1	...	1	...	1	2
Spina bifida, etc.	...	...	...	...	...	3
XII—DISEASES OF INFANCY.						
162. Other affections of infancy ...	...	...	...	...	...	3
163. Infant neglect (infants of three months or over)	...	...	...	...	...	3
XIII—AFFECTIONS OF OLD AGE.						
164. Senility	...	8	8	3	...	88
Senile dementia	...	...	...	...	...	13
XIV—AFFECTIONS PRODUCED BY EXTERNAL CAUSES.						
175. Food Poisoning:						
Botulism	...	2	2	...	...	...
Carried forward ...	256	4,536	4,792	342	272	88,708

AFRICAN—*continued.*

Diseases.	IN-PATIENTS. Remaining in Hospital at end of 1934.	Total Admission.	Total Cases treated.	Deaths.	Remaining in Hospital at end of 1935.	Out-patients.
Brought forward ...	256	4,536	4,792	342	272	88,708
XIV—AFFECTIONS PRODUCED BY EXTERNAL CAUSES—*continued.*						
176. Attacks of Poisonous Animals :						
Snake bite	...	3	3	...	...	35
Insect bite	...	1	1	...	...	47
177. Other accidental poisonings ...	...	2	2	1	...	6
178. Burns (by fire)	2	32	34	11	3	141
179. Burns (other than by fire) ...	...	12	12	...	3	118
180. Suffocation (accidental) ...	...	1	1	...	...	1
182. Drowning (accidental)	...	...	...	...	...	1
183. Wounds (by firearms, war excepted)	4	7	11	1	...	10
184. Wounds (by cutting or stabbing instruments)	3	48	51	1	3	694
185. Wounds (by fall)	...	64	64	1	2	384
186. Wounds (in mines or quarries) ...	...	1	1	...	...	4
187. Wounds (by machinery) ...	...	4	4	...	1	5
188. Wounds (crushing, e.g. railway accidents, etc.)	...	2	2	...	1	6
189. Injuries inflicted by animals, bites, kicks, etc.	4	16	20	1	...	365
192. B.—Hunger or thirst	...	18	18	6	...	2
195. Lightning stroke	...	...	...	...	...	8
196. Electric shock	...	...	...	...	...	2
201. A.—Dislocation	...	5	5	...	...	28
B.—Sprain	1	25	26	...	...	479
C.—Fracture	12	102	114	2	9	104
202. Other external injuries ...	4	218	222	1	7	4,900
XV—ILL-DEFINED DISEASES.						
205. A.—Diseases not already specified or ill-defined :						
Ascites	2	10	12	1	1	28
Œdema	1	6	7	3	...	123
Asthenia	10	8	18	5	10	927
Hyper-pyrexia	...	...	...	...	...	4
B.—Malingering	...	1	1	...	...	2
Pyrexia of uncertain origin ...	1	17	18	...	...	66
No appreciable diseases ...	...	15	15	...	...	243
Undiagnosed	2	13	15	2	3	103
Total ...	302	5,167	5,469	379	315	97,544

TABLE V.

THE PROPORTION OF EPIDEMIC, ENDEMIC, INFECTIOUS, SYSTEMIC AND OTHER DISEASES SHOWN AS PERCENTAGES OF TOTAL CASES TREATED.

Total Hospital Cases 103,517.

Epidemic, endemic and infectious diseases	19·13
General diseases not mentioned above	10·30
Affections of the nervous system	3·62
Affections of the circulatory system	1·40
Affections of the respiratory system	14·18
Affections of the digestive system	23·80
Diseases of the genito-urinary system and puerperal state	4·80
Affections of the skin and cellular tissues and diseases of the bones and joints	13·36
Affections produced by external causes	7·69
Other diseases	1·66

Total Hospital Deaths 383.

Epidemic, endemic and infectious diseases	21·67
General diseases not mentioned above	3·65
Affections of the nervous system	9·66
Affections of the circulatory system	6·52
Affections of the respiratory system	15·40
Affections of the digestive system	10·96
Diseases of the genito-urinary system and puerperal state	14·09
Affections of the skin and cellular tissues and diseases of bones and joints	7·83
Affections produced by external causes	6·52
Other diseases	3·65

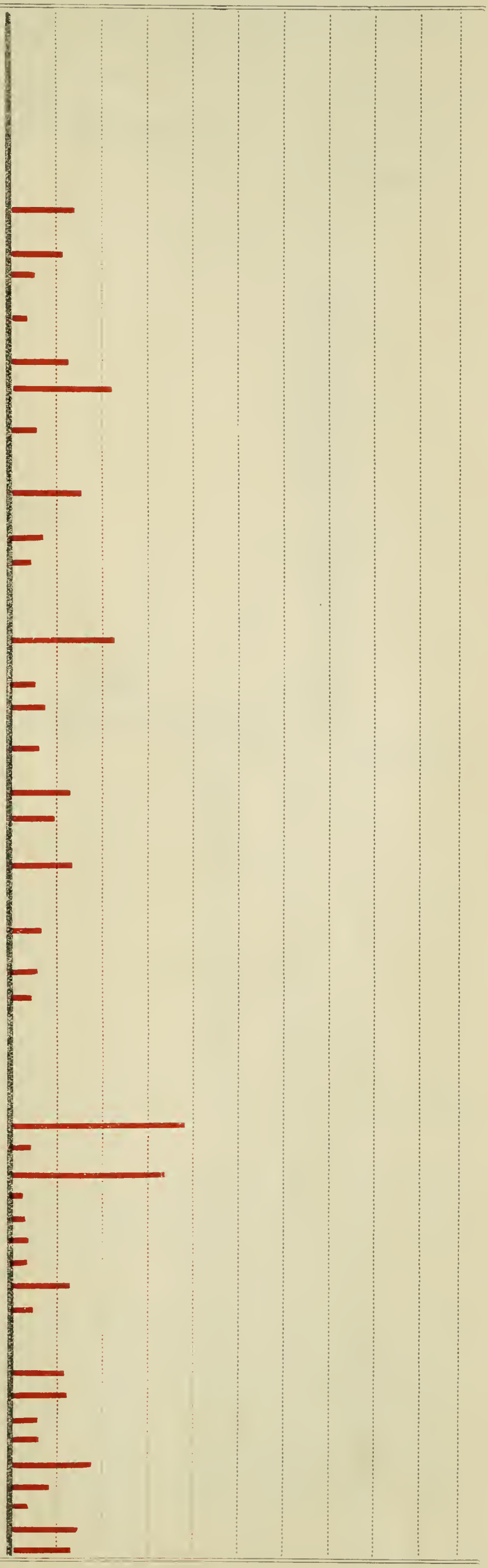
THE PROPORTION OF ENDEMIC AND INFECTIOUS DISEASES.

Total Hospital Cases 19,810.

Malaria	38·96
Smallpox	2·69
Yaws	33·00
Leprosy	1·23
Tuberculosis	·87
Dysentery	2·42
Syphilis and soft chancre ...	3·64
Gonorrhœa	12·75
Other infectious diseases ...	4·40

Total Hospital Deaths 83.

Malaria	12·04
Smallpox	18·07
Yaws	6·02
Leprosy	3·61
Tuberculosis	19·27
Dysentery	9·63
Soft chancre and syphilis ...	1·20
Tetanus	16·86
Other infectious diseases ...	13·25



A—REPORT OF THE SURGICAL SPECIALIST FOR THE YEAR 1935.

Difficulties were experienced in the early part of the year with shortages of material, personnel, and water, but in spite of this the number of cases treated surgically—two thousand two hundred and forty-six—is much the same as last year.

Owing to the financial situation it has not been possible to make much headway with such improvements as are considered desirable.

Statistics of operations are attached and a short summary of one or two of the more interesting cases.

Q. STEWART.

Percentage of deaths	1·01

Number of Operations performed:—

1926	29
1927	257
1928	755
1929	761
1930	1,566
1931	1,410
1932	1,913
1933	1,877
1934	2,281
1935	2,246

ANÆSTHETICS.

Spinal	469
Ethyl chloride	184
Chloroform	219
Local	278
Intravenous	14
Rectal	2
Total	1,166

OPERATIONS AT THE CONNAUGHT AND EUROPEAN HOSPITALS IN 1935.

	Cured.	Relieved.	Unrelieved.	Died.
(*1*) *Abdominal:*				
Herniotomy—inguinal	159	—	—	—
Herniotomy—femoral	2	—	—	—
Herniotomy—ventral	1	—	—	—
Herniotomy—umbilical	1	—	—	—
Herniotomy—strangulated	9	—	—	2
Gastric resection	1	—	—	—
Gastro—enterostomy	1	—	—	—
Cholecystectomy	1	—	—	—
Closure of fæcal fistula	2	—	—	—
Enterectomy	2	—	—	—
Appendicectomy	9	—	—	—
Jejunostomy	—	1	—	—
Exploratory laparotomy	—	9	—	3
Aspiration of ascites	—	1	—	—
Splenic puncture	—	—	1	—
Splenectomy	1	—	—	—
Nephrectomy	—	—	—	1
(*2*) *Ano-Rectal:*				
Excision of hæmorrhoids	1	—	—	—
Injection of hæmorrhoids	11	—	—	—
Dilation of rectal stricture	—	3	—	—
For rectal prolapse	—	—	—	1
Sigmoidoscopy	—	—	11	—
(*3*) *Ear, Nose and Throat:*				
Excision of ranula	2	—	—	—
Excision of nasal polypus	2	—	—	—
Mastoidectomy	5	—	—	—
Enulcleation of tonsils and adenoids	3	—	—	—
Turbinectomy	1	—	—	—
Caldwell-Luc operation	2	—	—	—
Bronchoscopy	—	—	1	—
Laryngoscopy	—	—	3	—
Oesophagoscopy	—	—	1	—
Tracheotomy	—	1	—	—
Thyrotomy	—	—	—	1

	Cured.	Relieved.	Unrelieved.	Died.
(4) *Eyes:*				
Extraction of cataract	2	—	—	—
Iridectomy	1	—	—	—
(5) *Genito-Urinary:*				
Cystoscopy	—	—	16	—
Excision of scrotum for elephantiasis ...	23	—	—	—
Excision of hypertrophied scrotum	26	—	—	—
Radical cure of hydrocele	109	—	—	—
Suprapubic prostatectomy	—	—	—	2
Suprapubic puncture	—	1	—	—
Suprapubic cystostomy for drainage of bladder	5	—	—	—
Tapping of hydrocele	—	16	—	—
Dilatation of stricture	—	247	—	3
Perineal urethrotomy	—	2	—	—
Circumcision	13	—	—	—
Vasostomy	—	1	—	—
Orchidectomy	4	—	—	—
For undescended testicle	1	—	—	—
(6) *Gynæcological:*				
Hysterectomy	17	—	—	1
Myomectomy	1	—	—	—
Uterine polypus	2	—	—	—
Curettage	8	—	—	—
Induction of labour	—	—	—	1
Cæsarean section	1	—	—	—
Salpingo-oöphorectomy	3	—	—	—
Excision of ovarian cyst	4	—	—	—
Cauterisation of cervix	1	—	—	—
Colporrhaphy	2	—	—	—
Perineorraphy	2	—	—	—
Excision of elephantiasis of breast	2	—	—	—
Excision of breast for carcinoma	—	3	—	—
Repair of vesico-vaginal fistula	2	1	—	—
For imperforate vagina	3	—	—	—
(7) *Head and Neck:*				
Excision of goundou	3	—	—	—
Excision of sarcoma	—	1	—	—
Trephining	—	—	—	1
Thyroidectomy for goitre	3	—	—	—
Ligature of innominate artery	—	—	—	1
Wiring of innominate aneurysm	—	1	—	—
(8) *Miscellaneous:*				
Drainage of septic conditions	352	—	—	3
Excision of glands	2	—	—	—
Aneurysm of femoral artery	—	—	—	1
Suture of wounds	516	—	—	—
Aspiration of pleura	3	—	—	—
Extraction of teeth	241	—	—	—
Excision of cysts	8	—	—	—
Excision of sinus	4	—	—	—
Injection of varicose veins	2	—	—	—
Removal of foreign bodies	33	—	—	—
Examination under anæsthesia	—	—	5	—
(9) *Orthopædics:*				
Reduction of fractures and separated epiphyses	39	—	—	1
Open operation for fracture	5	—	—	1
Reduction of dislocations	14	—	—	—
Open operation for dislocation	1	—	—	—
Extension of fracture by means of pins ...	17	—	—	—
Drainage and sequestrectomy for osteomyelitis	23	—	—	—
Excision of joints	1	—	—	—
Aspiration of joints	1	—	—	—
Breaking down of adhesions in joints ...	—	11	—	—
Excision of semilunar cartilage	1	—	—	—
Tenotomy	1	—	—	—
Tendon lengthening	1	—	—	—
Tendon suturing	1	—	—	—
Suture of nerves	1	—	—	—
Amputation of leg	2	—	—	—
Amputation of foot	1	—	—	—
Amputation of toe	10	—	—	—
Amputation of finger	10	—	—	—
Plaster cases	—	52	—	—

(*10*) *Skin and Subcutaneous Tissues:*	Cured.	Relieved.	Un-relieved.	Died
Debridement of burns	2	—	—	—
Excision of elephantiasis leg	11	—	—	—
Skin grafting	15	—	—	—
Tube pedicle graft	2	—	—	—
Plastic operation	4	—	—	—
Excision of non-malignant tumours	36	—	—	—
Total	1,814	351	38	22

NOTE.—(*a*) Dilatations of stricture of the urethra and rectum are placed under the heading "Relieved" in all cases.

(*b*) Diagnostic procedures such as cystoscopy and sigmoidoscopy are placed under the heading "Unrelieved."

OPERATIONS PERFORMED ON EUROPEANS.

Apendicectomy	3	—	—	1
Suture of wounds	3	—	—	—
Excision of simple tumours	1	—	—	—
Tapping of hydrocele	—	1	—	—
Injection of hæmorrhoids	1	—	—	—
Extraction of teeth	4	—	—	—
Extraction of foreign bodies	1	—	—	—
Dilatation of stricture	—	2	—	—
Drainage of septic conditions	3	—	—	—
Drainage for anal fistula	1	—	—	—
Total	17	3	—	1

FIBROMA OF STOMACH—GASTRECTOMY.

A Krooman was admitted on 15th November, 1935 complaining of a "pain in the stomach" of some three years duration accompanied by loss of weight. One month ago he noticed a lump in his abdomen. On examination a tumour was found to be present in the epigastrium; it was about the size and shape of a slightly enlarged kidney and freely moveable.

Under spinal stovaine the abdomen was opened in the mid-line above the umbilicus and the tumour was found to be situated in the interior of the stomach. After opening the stomach and ascertaining that removal of the tumour itself was impossible, a gastric resection was done by the Polya-Moynihan method. Recovery was uneventful.

The tumour was growing from the posterior wall of the stomach and projected into its interior. It was covered with smooth mucous membrane and a large ulcer was present on its anterior surface. The section report was that the tumour was a soft fibroma consisting of strands of fibroblasts and connective tissue fibres running in all direction, and that it appeared to originate in the sub-mucous tissue.

The question of diet is always of importance in the after-treatment of these gastric operations, but it is very difficult if not impossible in a West African native of this class to make any change in what he has been accustomed to eat. However, in a gastrectomy done previously and followed for several years there has been no complaint.

RUPTURED UTERUS FOLLOWING CÆSAREAN SECTION.

I was called to see a primipara of twenty-seven on 10th March, 1930 who had been in labour for four days—the lie was a transverse one, and as the patient's condition was giving rise to anxiety, in consultation with Dr. Wright it was decided that a Cæsarean section was indicated.

This was done under spinal stovaine. The child was found to be dead and the uterine contents foul smelling. Three rows of catgut stitches were used to close the uterus and a drain inserted down to the uterine wound and in the abdominal wall.

There was considerable discharge of pus from the wound for three weeks then healing took place.

The patient was warned that future pregnancy would be attended by risk and that if it did occur she should report early.

She reported again on 29th July, 1935 with an acute abdomen. Enquiry elicited the fact that she had been pregnant for the last eight months and had neglected to attend the ante-natal clinic. On examination the abdomen was distended and foetal parts could be so easily felt just under the abdominal wall that the diagnosis of ruptured uterus was certain.

The abdomen was again opened under spinal and the fœtus which was floating free in a blood-filled peritoneal cavity removed. A sub-total hysterectomy was then performed. Recovery was uneventful, the patient leaving the hospital three weeks later.

Abdominal Obstruction by Band.

The following case is remarkable in my experience on account of the ease with which the patient recovered from a gangrenous gut with peritonitis.

Teeh Gbleh, a Kroo woman, was admitted on 7th May, 1935 with a distended abdomen and a history of several days absolute constipation. It was evident that obstruction was present and the abdomen was opened under spinal. The small intestine was found to be obstructed by a band which had caused a 3 feet loop to be cut off from its blood supply with the result that it was markedly gangrenous and the peritoneal cavity full of foul smelling turbid fluid. The condition of affairs did not permit of more being done than eventrating the gangrenous bowel and draining the abdominal cavity. The most dependent part of the damaged loop was opened and allowed to drain into the dressings.

The patient recovered quickly from the shock of the obstruction and the pulse and temperature were soon normal. Three days later the gangrenous gut was excised and a month later the fæcal fistula closed.

Five months later she returned with a ventral hernia and this was repaired with strips of fascia lata from the thigh and the opportunity taken to remove a fibroid uterus with diseased appendages.

Two Cases of Tetanus treated with a Single Massive Dose of Anti-tetantic Serum and Avertin.

Following a report in the "Lancet" of August 3rd, 1935 by Dr. Cole, my last two cases of wound tetanus were successfully treated by giving a single dose of 100,000 A.T.S. intravenously and keeping the spasms controlled by administering avertin by the rectum as often as necessary.

The first was that of a Public Works Department labourer, 35 years old, who had an injury to his foot causing a superficial wound, and the second a girl of 6 years who was admitted with a very septic foot requiring amputation; in this case the amputation served to stir into activity tetanus organisms which must have been present in the tissues. Symptoms appeared eight days after the operation and therefore this was a very acute case with a bad prognosis. However under the single massive injection treatment with control of the spasms by giving rectal avertin at intervals progress was excellent and cure complete.

B—MATERNITY WARD.

There were 554 admissions to the Maternity Ward during the year, and of this number 379 gave birth in the ward. These consisted of 236 multiparæ and 143 primiparæ. Of the 379 cases which gave birth, 263 had normal labours. As in previous years, for the purpose of this report, a normal labour is considered one in which the pelvis is normal in size, the pregnancy is single, the child is delivered alive without aid, the vertex presents and the membranes do not rupture prematurely; there is no bleeding during labour, the mother is apparently healthy and suffers no injury during the birth.

The 116 abnormal labours were:—

Nine twin labours, 42 torn perinæums requiring suture, 5 torn labia, one torn vagina and 59 various abnormalities which are detailed later in the report.

There were 3 maternal deaths among these 554 patients during the year:—

(1) A case of hyperemesis gravidarum who died from exhaustion before the uterus could be emptied.

(2) A case of ante-partum eclampsia at full term admitted to hospital unconscious and died without regaining consciousness eight hours later.

(3) A woman who had suffered severely from A and B avitaminosis during pregnancy and neglected to take treatment, had an uneventful delivery and died from cardiac failure on the third day of the puerperum.

Among the children born in the ward, of the nine pairs of twins, 1 was dead-born and the remaining 17 were born alive, but 6 of these children died before being discharged from hospital. It is noticeable that the percentage of twin births 2·4 is very low when compared with previous years. Last year it was 5·4 per cent; the average percentage in this work being 6 per cent.

Among the 370 single births there were 42 children lost; 18 were dead-born, 4 still-born and 20 died before the mothers were discharged from hospital. For the purpose of this report a dead birth is considered one in which the fœtus shows evidence that death could not have recently taken place, e.g., maceration and skin peeling, discolouration of the cord, or commencing decomposition. A still-born child is considered one which might have been lost in the birth and shows no evidence of life but is not resuscitated.

The following Table I gives the chief feature of the 59 maternity cases, with varying abnormalities:—

TABLE I.

Premature birth	10
Dead-birth	8
Breech	4
Instrumental	15
Craniotomy	1
Eclampsia	1
Still-birth	2
Premature rupture of membranes	6
Face presentation	1
Flat pelvis	2
A. P. H.	3
Hydramnios	2
Concealed accidental hæmorrhage	1
Retained placenta	1
Hydrocephalus	1
Shoulder presentation	1
	59

In this table each case appears under its most salient feature and no case is counted twice.

There were 175 patients admitted to the Maternity Ward, in addition to the 379 women who gave birth in the ward. The following Table II gives the principal feature of each case.

TABLE II.

Malaria, M.T.	7
Malaria, quartan	21
Malaria, M.T. and quartan	6
False pains	26
Observation	44
Albuminuria	11
Anæmia	2
Diarrhœa	3
P. U. C.	3
Avitaminosis	11
Varicella	1
Transferred	2
Hyperemesis	3
B. B. A. retained placenta	2
A. P. H.	1
B. B. A.	1
Retention of urine	1
Miscarriage	7
Incomplete miscarriage	1
Threatened miscarriage	1
Pneumonia	1
Bronchitis	3
Ascariasis	1
Threatened abortion	2
Incomplete abortion	2
Complete abortion	3
Oedema of feet	3
Local injury	2
Pyelitis	1
Fibroid uterus	1
A. P. eclampsia	1
Umbilical hernia	1
	175

There were no deaths among these patients.

E. J. WRIGHT,
Senior Medical Officer (Sierra Leone), in charge, Maternity Ward.

Connaught Hospital,
Freetown,
5th February, 1936.

C—ANTE-NATAL CLINIC.

This clinic was held at the Maternity Centre in Oxford Street on Tuesdays throughout the year and was attended by patients coming from all parts of the town and adjacent villages. There were 745 new individuals on the register during the year, showing an increase of 123 over last year. There was a corresponding increase in the number of deliveries in the Maternity Ward, for whereas 331 were delivered last year, 379 gave birth in the ward this year, showing an increase of 45.

The routine work at this clinic consisted of pelvic measurement and examination to detect disproportion, urine examinations, treatment of general ailments with special regard to diet. A and B avitaminosis evidenced in the early stage by a glazed tongue and an altered condition at the angles of the mouth was very prevalent and treated by the administration of Cod Liver Oil, vitamin concentrates and advice in the form of a printed diet sheet.

The following table gives the attendances month by month and it will be observed that during the rains from July to October the attendances both of new and old cases reach a maximum.

Ante-Natal Clinic—Record of Attendances—January to December, 1935.

Month.	New Cases.	Repeated Visits.	Total.
January	68	413	481
February	53	426	479
March	44	281	325
April	63	452	515
May	41	288	329
June	60	330	390
July	89	564	653
August	62	467	529
September ...	57	462	519
October	87	654	741
November	61	488	549
December	60	411	471
Total ...	745	5,236	5,981

E. J. WRIGHT.

D—POST-NATAL CLINIC.

This clinic was operated on the same lines as in the previous year. All patients who gave birth in the Maternity Ward were given discharge tickets with essential details concerning their confinements entered thereon, and instructions to report at the Maternity Centre on the first Thursday after leaving hospital. The District Nurses also direct women who deliver at home to attend this clinic where they and their children are supervised and given necessary treatment for a month, after which period they are instructed to attend the Infant Welfare Clinic.

The numbers attending this clinic are not very large owing to the practice of limiting the period of attendance for observation to a month.

Various conditions are seen—the most common among women not delivering in hospital being avitaminosis—which usually clears up rapidly after delivery; subinvolution, malaria and albuminuria are also frequent.

The following table gives the number of individuals and subsequent attendances throughout the year:—

Post-Natal Clinic—Record of Attendances—January to December, 1935.

Month.	New Cases.	Repeated Visits.	Total.
January	47	73	120
February	32	64	96
March	18	47	65
April	30	51	81
May	26	52	78
June	29	38	67
July	25	40	65
August	34	53	87
September ...	26	43	69
October	39	55	94
November	35	55	90
December	37	52	89
Total ...	378	623	1,001

E. J. WRIGHT,
Senior Medical Officer (Sierra Leone), in charge, Maternity Centre.

E—INFANT WELFARE.

The work of the Infant Welfare Clinic was carried on throughout the year at the Maternity Centre in Oxford Street, and Dr. E. J. Wright was in charge for the period.

The staff of this centre which had consisted of one Senior Health Visitor, one Health Visitor and one other working in the East end of the town under the supervision of the Princess Christian Mission Hospital, was increased by the appointment of two more Health Visitors.

This report deals with work done in the West and Central Wards of Freetown, because the East Ward, as has just been indicated, is operated independently.

In view of the increase in staff the district work was rearranged and the Central and West Wards of the town were divided up into three areas, a nurse being detailed to each area. The method of working continued the same as in previous years, and the Health Visitors obtained from the Registrar lists of the registered newly-born at frequent intervals, visited them, gave advice, directed them to attend the clinic and whilst doing these routine visits paid attention to any other children under three years of age.

The following table is a record of the work done by the Health Visitors from January to December, 1935.

Health Visitors—Record of Attendances—January to December, 1935.

Month.	Newly-born.	New Cases.	Repeated Visits.
January	89	63	1,154
February	59	25	941
March	53	88	2,178
April	44	18	573
May	40	17	643
June	37	7	521
July	37	26	885
August	60	15	947
September ...	49	15	1,132
October	74	15	1,048
November	76	16	1,105
December	64	14	858
Total ...	682	319	11,985

During the year, 712 individuals attended the infant clinics. Before considering Table I which gives the number of attendances for the last five years, showing the age at which the children were first brought to the clinics, attention must be drawn to the fact that this year it has been decided to include the children brought to the Post-Natal Clinic in this table; consequently there is a large increase in the number of those under one week and two weeks attending the clinic, with a corresponding fall in the number of those attending in the two weeks to one month and the one month to three months age groups.

It should also be noted that 1934 was the first full year of operation of the Post-Natal Clinic and whilst reviewing the work for 1934 the infant attendances at this clinic were not recorded, consequently in that report these children only became individual attendances when they were drafted to the Infant Welfare Clinic.

TABLE I.

Ages at which Children were brought to the Infant Welfare Clinic.

Age.	1935.	1934.	1933.	1932.	1931.
Under 1 week ...	164	37	60	27	1
„ 2 weeks ...	195	96	109	100	30
2 weeks—1 month ...	77	142	156	159	128
1—3 months	84	175	161	167	158
3—6 „	64	97	58	94	125
6—12 „	44	82	94	113	105
1—2 years	48	64	80	116	107
2—3 „	36	44	46	30	68
Total	712	737	764	806	722

It will be noticed that although the number of individuals attending remain satisfactory, there is still a steady falling off in the number of children brought between the ages of one to three years. This year there has also been a diminution in attendance in the six months to one year group.

The next Table II shows the number of new cases and old cases attending the clinic month by month.

TABLE II.

Infant Welfare Clinic—Record of Attendances—January to December, 1935.

Month.	New Cases.	Repeated Visits.	Total.
January	69	1,008	1,077
February	65	1,088	1,153
March	38	1,133	1,171
April	46	684	730
May	71	824	895
June	42	728	770
July	66	1,008	1,074
August	65	801	866
September ...	52	968	1,020
October	53	1,178	1,231
November	56	1,082	1,138
December	40	891	931
Total ...	663	11,393	12,056

During the year there were 1,358 births registered in Freetown with 308 deaths under twelve months, which gives an infant mortality rate of 227.

The figures for the past six years are given for comparison.

Year.	Births Registered.	Deaths under Twelve Months.	Infantile Mortality Rate.
1930	1,102	371	339
1931	1,263	365	288
1932	1,276	348	272
1933	1,378	317	230
1934	1,339	312	233
1935	1,358	308	227

These figures show progress when the conditions prevailing during the year are taken into consideration.

E. J. WRIGHT,

Senior Medical Officer (Sierra Leone), in charge, Infant Welfare Clinic.

Connaught Hospital,
Freetown,
5th February, 1936.

F—EYE CLINIC.

This clinic has increased appreciably. In 1934, in 83 sessions there were seen 390 new cases and 916 sub-attendances. In the current year the number of new cases has increased to 666, and the sub-attendances to 1,987 in 79 sessions.

Analysis of Cases.

(*a*) *Affections of Lids:*	
Chalazion	7
Hordeolum	4
Ptosis	1
Wound	1
Erysipelas	1
Contusion	1
Granuloma	1
Cellulitis	2
(*b*) *Affections of the Conjunctiva:*	
Conjunctivitis	82
Phlyctenular conjunctivitis	5
Trachoma	27
Sub-conjunctival hæmorrhage	4
Foreign body	1
Pterygium	2
(*c*) *Affections of the Sclera:*	
Hyperpigmentation	1
Wound	1
Episcleritis	3
Rupture	1
(*d*) *Affections of the Cornea:*	
Corneal opacity	14
Ulcer	6
Keratitis	14
Foreign body	3
Staphyloma	1
Burn	1
(*e*) *Affections of Iris and Ciliary Body:*	
Irido-cyclitis	37
Cyclitis	6
(*f*) *Affections of Choroid and Retina:*	
Amblyopia (retinal, cause uncertain)	58
Amblyopia (retinal, due to avitaminosis)	50
Choroido-retinitis	21
Retinitis pigmentosa	1
Retinitis proliferans	1
Albuminuric neuro-retinitis	1
Embolism of central artery of retina	1
Disseminated choroiditis	1
(*g*) *Affections of Lens:*	
Senile cataract	21
Secondary cataract	3
Traumatic cataract	3
Complicated cataract	3
(*h*) *Affections of Optic Nerve:*	
Optic atrophy	14
Tumour	1
(*i*) *Errors of Refraction:*	
Hypermetropia	37
Hypermetropic astigmatism	7
Compound hypermetropic astigmatism	13
Myopia	24
Myopic astigmatism	8
Compound myopic astigmatism	27
Mixed astigmatism	10
Anisometropia	1

(*j*) *Errors of Accommodation:*

Presbyopia	29
Spasm of accommodation	2
Paralysis of accommodation	2
Asthenopia of accommodation	4

(*k*) *Miscellaneous:*

Glaucoma	7
Contusion of eyeball	5
Panophthalmitis	1
Phthisis bulbi	1
Arterio-sclerosis	1
Orbital necrosis	1
Paralysis of external rectus	1
Paresis of 3rd and 7th nerves	1
Uveitis (origin uncertain)	2
Vitreous opacity (origin uncertain)	1
Avitaminosis (conjunctivitis, blepharitis, and indefinite symptoms associated with other signs of avitaminosis)	7
Nothing abnormal found	34
Undiagnosed (did not return for diagnosis to be completed)	34
Total	666

There is no special comment to make, except to draw attention to the large amount of amblyopia. This was definitely associated with, and probably due to avitaminosis in 50 cases. In the other 58 cases of amblyopia, the great majority was considered due to avitaminosis, the amblyopia being the only sign. The condition is a very serious one, recovery being very slow, uncertain, and in spite of treatment, may progress, even to optic atrophy.

Up to the end of 1935 the following operations were performed:—

Scleral puncture	2
Chalazion	5
Enucleation	4
Evisceration	2
Discission	1
Corneo-scleral trephining	2
Cataract extraction	1
Paracentesis	1
Removal of foreign body from cornea	2
Removal of granuloma of lid	1
Removal of sequestrum of orbit	1
Total	22

E. S. WALLS,
Senior Medical Officer.

G—A HEALTH REPORT ON THE INCIDENCE OF ONE DEFINITE AND SEVERAL SUSPECTED CASES OF YELLOW FEVER IN FREETOWN, SIERRA LEONE.

The general prevalence in 1934 of cases of yellow fever in the various countries which form the West African Continent, had given cause for uneasiness in those people responsible for the sanitary state of Freetown.

The proved incidence of yellow fever in Bathurst, Gambia, in October to December, 1934, brought the disease nearer to hand, and called for even greater vigilance on the part of the Port Health Authority and combined with a more stringent anti-mosquito campaign in Freetown and its environs.

Many epidemics of yellow fever had raged along the West African littoral, yet Freetown had, in so far as is known, remained non-infected since 1910. Its continued freedom in 1934 gave rise to the hope that the active preventive measures taken combined with the natural advantages of situation and climatic features enjoyed by Freetown had again guarded the City from infection; but in January, 1935, the post mortem findings in the case of an obscure but fatal disease occurring in a European official resident in the Freetown area led the authorities to the conclusion that a yellow fever infection existed, even if in a small and sporadic form.

A discussion of the clinical features of this one fatal case and of the subsequent suspected cases does not fall within the scope of this Health Report for the purposes of which it is sufficient to state that the patient presented a history commencing on 13th January, 1935, which presented no indication of yellow fever, that he was admitted to hospital on 16th January, 1935, where he was thoroughly examined clinically and by recognised laboratory methods for the presence of malaria and enteric, both of which proved negative. By January 19th, the clinical signs and symptoms were indicative of the disease being yellow fever and on 21st January, 1935, a diagnosis of suspected yellow fever was made, this was communicated by cable to the Secretary of State and to neighbouring West African Administration. The patient subsequently died on 26th January, 1935, and the provisional diagnosis of yellow fever was confirmed by pathological examination carried out by the Sir Alfred Jones Laboratory and by serological tests performed in the pathological laboratory in Lagos, Nigeria.

The preventive measures dictated by the presence of a suspected case of yellow fever had not awaited the final diagnosis, they had indeed been prosecuted with rigour from the moment the disease had been suspected; but for the sake of continuity it were perhaps better that a brief outline of the cases subsequently suspected of yellow fever should be given, while finally the preventive measures undertaken throughout the whole period can then be detailed.

No other case of suspected or proved yellow fever occurred in a European, but from the end of February onwards a series of cases arose in Africans in which the symptoms when combined with the knowledge that a definite case of yellow fever had occurred, were sufficient to keep the authorities on the *qui vive* and which indeed caused some anxiety.

The cases occurred in Africans, and in the main they all showed the following signs and/or symptoms. Temperature, albuminuria, renal casts, alleged vomiting (not always of blood), early and intense jaundice, epigastric pain, headache. In some cases the disproportionate temperature pulse ratio was present. All the patients recovered, and in the majority of cases at a rapid rate.

The greater number of the patients had been ill for some days prior to detection, and with but one exception no definite " case connection " could be detected.

The appended list gives the number of cases in chronological order, it also shows the results of serum samples subjected to the mouse protection test.

It is now well established in medical science that an infection with virus of yellow fever confers life-long immunity in the patient; thus a positive result in a serum sample taken from any person who is non-indigenous to the country, and who has recently suffered from a train of symptoms analogous to those of yellow fever, is usually sufficient to establish the diagnosis as being that of yellow fever; there is the small factor of error, even in non-indigenous people, that the patient might have suffered in years gone by from a mild and non-recognised attack of the disease, but such examples are by no means common, whereas the great mortality rate of yellow fever infections in non-Africans usually permits of a positive diagnosis being made post mortem; further, from the health point of view, it should be borne in mind that experience along the West African littoral has tended to confirm the opinion in the majority of cases that the occurrence of yellow fever in a non-African is no more than an indicator of the previous existence of a focus of infection in the African population, and thus calls for restrictive measures which one would hesitate to apply in the case of a non-confirmed infection occurring in an African.

The same statement cannot be made as to the value of serum diagnosis in the case of the African. It is now well known that the whole of the West African Continent is an endemic area for yellow fever, and research work which is being carried on annually demonstrates that the infection which for many years had been considered to be restricted to coast belt, does indeed extend far into the hinterland. It is also known that while the African does not enjoy racial immunity, he does to a great degree possess racial resistance, and that in him, infection can be so slight as merely to cause him one or two days indisposition, without his ever exhibiting any of the cardinal signs of the disease; nevertheless, such an ambulatory attack of the disease confers life-long immunity. It must be borne in mind that in this continent of varied, and as yet but little understood tropical infections, there are not a few diseases which closely simulate the picture of yellow fever. It is thus apparent that no definite diagnosis can be deduced from a single serum sample taken from an African. To obtain any corroborative information at least two samples are necessary, one taken within the first few hours of the illness, and another taken subsequently and preferably during convalescence from that infection which had given rise to the provisional diagnosis of yellow fever. Conclusive evidence that the infection was yellow fever can be obtained only in those cases where the first serum sample proves negative and the second sample gives a positive result.

Sera were sent down to Lagos from the majority of the cases of suspected yellow fever which were encountered in the period covered by this report, and the result of the tests of these sera are incorporated in the chronological table of the cases. It will be noticed that there were only two sera which proved positive. Both the cases were females of about the 35–40 years age-group. Both had lived in Africa all their lives, and both of their sera were taken only when the disease had been in progress for some days; thus no primary sample was available in either case, and therefore no conclusive corroborative deductions can be drawn from the positive findings. I would here point out that of a series of blood taken from various age-groups in Sierra Leone, and submitted to the Rockefeller Foundation in Lagos for testing by the Mouse Protection Test, those in the 35–40 age-group gave a positive result of about 20% : it is therefore to be expected that positive findings of an infection, which might have been a past or present infection, will inevitably be obtained if sufficient samples are sent from the age-group.

The continued recurrence, though in an intermittent and sporadic manner, of cases exhibiting the signs and symptoms above enumerated, finally reached a head in March, when on the 19th neighbouring countries were notified of a suspected case in an African who had been admitted to hospital on the 16th (I append copy of the cable) :—

> " One suspected case Yellow Fever African adult female onset probably
> " March 10th admitted to hospital on March 16th. All precautions taken.
> " Larval index ·09
>
> *Governor.*"

and again, when a telegram was sent to neighbouring administrations on the 23rd of March notifying a further case in an African admitted to hospital on 21st of March. I also append a copy of this telegram, from which it will be seen that on the occurrence of these two suspected cases, Freetown was declared an infected area as from the 23rd, legal effect being given to this by Governor's Order, No. 2 of 1935, dated the 23rd day of March, which was issued at the request of the Director of Medical and Sanitary Services :—

> " One further suspected case Yellow Fever African adult male onset March 20th
> " admitted to hospital 21st March screened same day. All precautions taken.
> " Larval index area nil. Freetown declared infected area.
>
> *Governor.*"

The absence of any further suspected cases combined with the honest conviction that a " foyer " of yellow fever did not exist, His Excellency the Governor exercised his power given in the rules made under section 3 of Cap. 179, and Freetown was declared free of infection by the Freetown (Revocation) Order, 1935, dated the 30th of March, 1935. Since that date further cases exhibiting more or less similar signs and symptoms to those already enumerated above, have occurred and their sera have been sent to Lagos; in no case has the patient died nor has a positive result been obtained from the examination of the sera.

In passing it is interesting to note that the serum of Captain Winward, who believed that he had suffered from yellow fever, when a boy was sent to Lagos and proved positive in examination, as also did the serum of Dr. E. A. Renner, one of our Sierra Leone doctors, who all his life has lived in West Africa.

PREVENTIVE MEASURES.

For the sake of regularity a tabulated list is given hereunder of the measures taken during the whole of the period during which those cases of obscure origin were occurring :—

(i) The suspected cases were all screened immediately they were detected.

(ii) They were removed to the Infectious Diseases Hospital in those cases where removal was humanly possible.

(iii) All contacts living in the same house, and all those persons of whom it could be proved that they had been regular visitors to the house, were isolated at the Quarantine Station.

(iv) The house in which the patient had lived as well as all the dwellings in the neighbourhood were sealed and fumigated with $\frac{S.O.}{2}$ gas.

(v) The available Inspectors were all mobilized and an intense search for mosquito larvæ and for the detection of mosquitoes in houses was made in a large circular area of which the supposedly infected houses form the centre.

(vi) The system of an Inspector being in charge of his district was slightly altered in that all Inspectors were mobilized into one driving force and operated in different sections from day to day.

(vii) All cases of sickness detected were brought to the central institution for examination and observation.

(viii) The routine clearance of bush and high weeds was intensified, as also was the felling of water-bearing trees.

(ix) All pools, swamps, etc. were oiled twice weekly.

(x) Voluntary immunisation inoculation was made available for non-indigenous residents.

(xi) Ships in port were anchored at least 500 yards from shore and were worked only in daylight.

(xii) All passengers and crews embarking were examined prior to embarkation.

(xiii) An extensive search was made throughout all the schools for the detection of hidden or obscure cases of "fever."

(xiv) Advice on prophylactic precautions was given by radio broadcast.

J. A. A. DUNCAN,
Assistant Director of Medical Services (Health).

LIST OF YELLOW FEVER CASES.

Name.	Sex.	Recent Illness.	Former Illness.	Specimens.	Result.
Lipscombe (*e*)	Male	Yes	—	Late	+
Tamba Dea (*a*)	,,	,,	—	Late, 1st & 2nd	—
Hilda Capolus (*a*)	Female	,,	—	Late	—
Ansumanah (*a*)	Male	,,	—	Late	—
Mrs. I. Graham (*a*)	Female	,,	—	Late, 1st & 2nd	—
Joa Davis (*a*)	,,	,,	—	Late	+
Ed. Reid (*a*)	Male	,,	—	1st, 2nd, 3rd	—
Amadu Bari (*a*)	,,	,,	—	—	—
Fantah (*a*)	Female	,,	—	1st not tested, 2nd.	+
Sorie Loko (*a*)	Male	,,	—	—	—
Mrs. Reid (*a*)	Female	,,	—	—	—
Baby Reid (*a*)	—	,,	—	—	—
L. Wilson (*a*)	—	,,	—	Insufficient serum sent	
A. Eassar (*s*)	Male	,,	—	No test done	
Ma Ferren (*a*)	Female	,,	—	—	—
Love Scott (*a*)	,,	,,	—	1st & 2nd	—
Adjuah Hughes (*a*)	,,	,,	—	—	—
Specimens of Blood taken from people who had suffered from symptoms suspicious of Yellow Fever.					
Capt. Winward (*e*)	Male	—	Yes	—	+
Dr. E. S. Walls (*e*)	,,	—	,,	—	—
Dr. E. A. Renner (*a*)	,,	—	,,	—	+
Mr. S. Despicht (*e*)	,,	—	,,	—	—

(*e*) European. (*s*) Syrian. (*a*) African.

H—VITAMIN "A" VALUE OF RED PALM OIL.

Ten years ago the general opinion was that vegetable oils were devoid of vitamin A and this opinion was generally expressed in the literature. Jansen and Donath (1924) when experimenting with rats in the Dutch East Indies found that a ration of 10 *per cent.* soya beans, dried fish and oil-palm oil would not correct a vitamin A deficient diet. The same year (1924) the Medical Research Council in its publication "Report on the Present State of Knowledge of Accessory Food Factors (Vitamins)", page 111, gives the vitamin A content of palm oil (not specifying the red oil) as + to + + i.e., presence to good source, and in a table summarizing vitamin content of foods, gives palm oil (still not specifying red oil) as + to + + + i.e., presence to very good source.

Jansen and Donath (1928) in a paper "The amount of Vitamin A in Indian Fruits" summarized in the Bulletin of Hygiene, Vol. III, No. 10, say that zerophthalmia is often found in native Indian populations when the diet consists almost entirely of rice, though fruit generally forms an important factor in the native diet. Palm oil from a stoneless species when tested for its curative properties on early xerophthalmia in rats was found to be fairly rich in vitamin A—still the red palm oil is not specified.

In the 1932 publication of the Medical Research Council, entitled "Vitamins: a Survey of Present Knowledge," the statement occurs (page 45) that many vegetable oils such as arachis oil, linseed oil, cotton-seed oil, olive oil and cocoa-nut oil contain little or no vitamin A: red palm oil and some samples of maize oil are rich sources.

In the Biochem-Journal, 1932, Vol. 26, 151–4, summarized in the Bulletin of Hygiene, Vol. 7, No. 8, W. J. Dann writes on the vitamin D. content of red palm oil. He found very little, if any, vitamin D in oil extracted by steam but in a sample of native-rendered oil prepared by fermentation in the open air and containing much free fatty acid, he found a slight anti-rachitic activity less than 1–30 that of cod liver oil—he suggests since red palm oil is as potent as cod liver oil in vitamin A that it could be used as a cheap and convenient source of vitamin A free from vitamin D as it appears that any sample of the red palm oil having a low free fatty acid content could be used with safety.

Rosedale, J. L. and Oliveiro, C. J.—The Fat Soluble Vitamins of Tropical Food Oils. Far Eastern Association of Tropical Medicine Trans. Ninth Congress, Nanking, China, 1934: Vol. 1, 327—36. Summary in Bulletin of Hygiene, Vol. 10, No. 7.

Vitamin A content of various oils determined by prophylactic and curative tests on xerophthalmia in rats. Red palm oil was a good source and 0·05 *per cent.* of the diet was the minimal effective dose. (Cf. Jansen and Donath in 1924—10 *per cent.* soya beans, dried fish and oil-palm oil, ineffective; this was probably not the red oil). They say red palm oil is not so readily activated by sunlight (i.e. vitamin D not produced by irradiation) as other oils, and the summary concludes by saying that tropical dietaries will never be really satisfactory in vitamin A content unless some oil which is a good source of this vitamin is used for culinary purposes. Red palm oil should serve this purpose and its use should be strongly encouraged; bleached oil is of no value.

E. J. WRIGHT.

I—VENEREAL DISEASE CLINIC.

I took over the Venereal Disease Clinic in February.

The year shows an appreciable increase of male patients, and an extremely poor attendance on the part of the female patients.

The increase in attendance over that of last year is:—

New cases	169
Subsequent attendances	4,034

Below a summary of the year's work is given.

VENEREAL DISEASE RETURN.

DISEASE.	NEW CASES.			SUBSEQUENT CASES.		
	Government.	Non-Government.	Female.	Government.	Non-Government.	Total.
Gonorrhœa	40	384	19	1,071	7,566	8,637
Bubo	2	20	3	41	752	793
Epididymitis ...	—	5	—	—	101	101
Orchitis	2	14	—	28	266	294
Stricture	—	11	—	—	9	9
Arthritis	1	39	—	24	396	420
Urinary fistula ...	—	3	—	—	32	32
Perinial abscess ...	2	9	—	45	192	237
Vaginitis	—	—	1	—	23	23
Chancre	3	4	—	53	64	117
Penile ulcers ...	12	162	—	212	3,134	3,346
Vaginal ulcers ...	—	—	1	—	19	19
Scrotal ulcers ...	—	2	—	—	42	42
Venereal warts ...	—	—	1	—	18	18
Z ii and Z iii ...	5	12	5	44	207	251
Total	67	665	30	1,518	12,821	14,339

E. A. RENNER,
Medical Officer-in-charge, Venereal Disease Clinic

CONNAUGHT HOSPITAL,
FREETOWN, SIERRA LEONE,
31st January, 1936.

J—FREETOWN METEOROLOGICAL OBSERVATIONS (TOWER HILL OBSERVATORY), 1935.

——	Month.	Mean Pressure.	Air Temperature.						Relative Humidity, 9 a.m.	Rainfall.			
			9 a.m.	Mean.	Means of Absolute.					Total.	Maximum.	Date.	Number of Days Rain.
					Minimum.	Maximum.	Minimum.	Maximum.					
Latitude 8° 27′ N Longitude 13° 9′ W Height above M.S.L. Barometer Cistern 180·5 feet Site of Rain Gauge 171 feet	January ...	29·932	78·4	79·6	73·0	86·2	67	90	79·5	0·80	0·65	28th	4
	February ...	29·939	79·1	80·4	74·0	86·8	72	92	76·8	—	—	—	—
	March	29·909	77·9	79·6	72·5	86·7	68	90	75·6	—	—	—	—
	April	29·923	80·9	81·3	74·3	88·3	70	95	71·9	0·82	0·60	13th	3
	May	29·945	81·1	80·8	74·4	87·2	68	92	80·4	10·83	1·92	28th	16
	June	29·958	78·3	78·4	72·0	84·8	68	88	86·6	32·86	5·65	7th	29
	July	29·979	76·8	76·8	71·5	82·1	64	87	90·6	41·20	6·72	28th	28
	August	29·971	76·7	76·5	71·5	81·6	67	85	89·7	52·65	11·84	30th	24
	September ...	29·960	77·6	77·5	70·8	83·3	69	87	89·6	34·38	4·55	26th	26
	October ...	29·949	78·1	78·6	71·9	85·3	68	90	86·8	16·46	3·30	1st	24
	November ...	29·967	78·9	79·1	72·1	86·2	68	90	83·6	7·70	2·68	26th	15
	December ...	29·958	78·7	79·4	72·7	86·2	69	89	77·8	1·35	0·97	12th	3
	YEAR ...	29·949	78·5	79	72·6	85·4	68·1	89·6	82·4	199·05	11·84	30th Aug	172

SIERRA LEONE.

Scale $\frac{1}{2,000,000}$ or 31·564 Miles to 1in.

10 0 10 20 30 40 50 Miles.

Provincial Boundaries shewn	
District " "	
Sierra Leone Government Railway	S.L.R.
Motor Roads	
Motor Roads under construction	
Ports	
District Head Quarters	H.Q
Health Areas	⊙

The Colony comprises the Peninsular area including Freetown, Waterloo, Songo, Kent and York.

Notifiable diseases are :—

Plague, Pneumonia, Cholera, Typhus, Smallpox, Chicken-pox (Varicella), Yellow Fever, Blackwater Fever, Relapsing Fever, Continued Fever, Puerperal Fever, Typhoid and Paratyphoid Fever, Dysentery, (Amœbic and Bacillary), Beri-Beri, Tuberculosis, Leprosy, Cerebro-Spinal Meningitis, Sleeping Sickness, Acute Poliomyelitis, Influenza, Erysipelas, Mumps (Infective Parotitis), Diphtheria, Membranous Croup, Scarlatina or Scarlet Fever, Human Rabies.